

S. L. A. Marshall Chair

Leadership Experience and Leadership Performance

Fred E. Fiedler

1994

**United States Army Research Institute
for the Behavioral and Social Sciences**

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and Leadership Performance**

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University of Washington**

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20010330 025

This report was begun while the author held the S.L.A. Marshall Research Chair at the U.S. Army Research Institute for the Behavioral and Social Sciences (Edgar Johnson, Director). The research was conducted principally under Contracts MDA 903-83-M-3668 and MDA 903-89-K-0193 with the U.S. Army Research Institute (Fred E. Fiedler, Principal Investigator). The opinions and conclusions presented in this paper do not necessarily reflect those of the sponsoring agency.

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Foreword

Fred E. Fiedler, a world-class researcher and distinguished scholar in the field of leadership and organizational behavior, was the third appointee to the S.L.A. Marshall Research Chair at the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI). The pages that follow are a testament to his prodigious scholarship and innovative, analytic thinking. They represent a summing up and integration of 20 years of his programmatic leadership research, completed during his tenure as Marshall Chair appointee.

Professor Fiedler was preceded in the Chair by famed military sociologists Morris Janowitz and Charles C. Moskos and in the S.L.A. Marshall Distinguished Lectureship series by Professor Donald Michie, known worldwide as “the father of expert systems” and an illustrious contributor to the field of artificial intelligence. The S.L.A. Marshall programs were initiated at ARI in 1986 through the sponsorship of Lieutenant General Maxwell Thurman. Their purpose was to bridge the military research community and the academic world, to establish lasting, in-depth relationships among the Army, ARI, and recognized scholars in the fields of behavioral and social sciences. The Fiedler/ARI ties are surely a salutary example of such relationships.

The reader will find excitement in this scientific monograph. It turns out that “experience is not the best teacher”! Leader experience, as a variable that might be expected to predict leadership performance and effectiveness, does not generate such results in a straightforward way. Fiedler and his associates offer us a vision of the complex role that is played in organizational processes by leader experience and cognitive resources such as intellectual abilities and expertise. They identify new methods for improving the performance of our officers and non-commissioned officers and their units.

For the full story, the interrelated experiments, the findings, the resolution of the intricate leadership puzzle according to Fiedler's lights, turn the pages. It will be a rewarding read.

EDGAR M. JOHNSON
Director, ARI

Acknowledgments

The research for this report was begun when I had the honor of being appointed to the S.L.A. Marshall Chair at the Army Research Institute for the year 1987–1988. The work was carried out primarily under contract with the U.S. Army Research Institute for the Behavioral and Social Sciences but also includes a number of studies which were independently conducted or funded by other sources. This report summarizes the work of a research program which investigated in part how, and under what conditions, leaders are able to make effective use of their experience. Considering that everybody supposedly knows what experience is, this simple sounding question turned out to be an unexpectedly complex undertaking that extended over more than 20 years.

Personnel officers and executives attribute considerable importance to managerial or leadership experience. It is all the more remarkable, therefore, how little we know about this particular topic. Even now, the picture is still far from complete and much remains to be learned. There are many gaps in our knowledge, and many more questions that await the research which I gladly leave to younger and brighter investigators.

The research comprised more than 40 studies, and I wish to acknowledge my indebtedness to my many associates and graduate students at the University of Washington who, at one time or another, participated in this effort. Special credit belongs to Jon W. Blades, then a graduate student, and later one of ARI's commanders, who was instrumental in starting us on the road which eventually led to the development of Cognitive Resource Theory. Joseph E. Garcia collaborated with me in an earlier attempt to integrate our research on that theory (Fiedler & Garcia, 1987).

Although all members of my research group contributed materially to our thinking and assisted in the research on experience at one time or another, I would like to single out for notice those who were most directly involved in our research on leadership experience. These

include Jeffrey W. Anderson, Valery Barnes, Patrick J. Bettin, Dewey W. Blyth, Paul M. Bons, Donald F. Borden, Louis Csoka, Dean E. Frost, Frederick W. Gibson, Dennis Hrebec, Roland W. Jacobs, William H. Knowlton, Albert E. Leister, Jr., Thomas G. Link, Mark McGuire, Jennifer L. Macaulay, Susan E. Murphy, Earl H. Potter, III, Mary Richardson, Donald Schmidt, and Mitchell M. Zais.

This project could not have been conducted without the continuous financial support I received from the military services, and which I gratefully acknowledge. It was funded first by the Defense Advanced Projects Agency and its director, Craig Fields. Subsequent support was provided by the U.S. Army Research Institute for the Behavioral and Social Sciences (Dr. J. E. Uhlaner was then its Technical Director, succeeded by Dr. Joseph Zeidner, and Dr. Edgar Johnson who is the current Director of the Army Research Institute). Also, my sincere thanks for the support and encouragement I received from the directors of the Office of Basic Research of the Army Research Institute, Drs. Milton Katz and Michael Kaplan, and for the additional opportunity to work on the problem of leadership experience which my tenure as S.L.M. Marshall scholar provided.

Finally, I wish to acknowledge my special indebtedness to Donna Whittaker, who took responsibility for endlessly and without complaint typing and re-typing the manuscript in all of its dozens of reincarnations, as well as preparing the bibliography; to Dennis Hrebec and Steve Holste for checking data; to Lee R. Beach, now at the University of Arizona, and Judith Fiedler, for giving me the unstinting benefit of their constructive suggestions as well as their stinging critical remarks and caustic comments that helped to make this report more readable.

Fred E. Fiedler
Seattle, Washington
May 10, 1994

Executive Summary

This report summarizes the major findings of a 20-year program of research on the role and function of cognitive resources in organizational performance. Although there is no generally accepted definition of the term, leadership experience is one of the most important factors in selection and promotion decisions. In common usage, experience most often refers to time in service (TIS) at an organization, a job, or occupation (e.g., "How long have you been a manager here?"). Other definitions may also refer to diversity, richness, or relevance of previous jobs. However, all definitions imply skills, knowledge and behavior acquired in the course of time on the job rather than by formal training.

This report is based on data from over 1,200 leaders and task groups in military and civilian organizations and laboratory settings. Most of the studies were part of a larger project on the utilization of "cognitive resources," that is, the leaders' intellectual abilities, experience, and job-relevant knowledge and skills. Three specific points should be kept in mind in reading this report:

1. Our research focuses on *leadership* experience, not individual experience (e.g., conducting an orchestra, not playing a violin).
2. "High" or "low" leadership experience, intelligence, expertise, etc., in this report is almost always based on a comparison within a particular sample. A platoon sergeant has high or low intelligence in comparison with other platoon sergeants, regardless of his or her score on a standardized intelligence test.
3. The "effective utilization" of a cognitive resource (e.g., experience) is inferred from the correlation between that resource and the performance of the leader or the group. Thus, a correlation of .80 between time in service (TIS) and performance implies that experience contributed strongly to performance; .00 implies that experience had no influence; and $-.80$ implies that experience was detrimental to performance.

While experience undoubtedly teaches, an experience from which one has “really learned” almost invariably occurred in stressful or anxiety-arousing conditions. Appropriate responses to these conditions typically allow little time to think. Effective responses to cope with emergency, stress, and crisis, therefore, need to be almost automatic, and based on overlearned behavior. Hence, such organizations as military combat, fire, and medical emergency teams place great emphasis on constant drill and training.

Summary of Major Findings

1. *Leadership experience as a predictor of performance.* Contrary to popular belief, experience measures, by themselves, do not predict leadership performance. (Median correlations with rated or measured performance in our studies were below .10.)

2. *Stress and the utilization of leadership experience.* The utilization of the leader’s cognitive resources is strongly affected by situational factors, notably stress, and especially stress with the immediate superior (“boss stress”). In oversimplified terms, when stress is low, leaders use their intelligence but tend to misuse their experience; when stress is high, leaders use their experience but misuse their intelligence, “misuse” being indicated by a negative correlation between intelligence or experience and performance.

A study of Army combat infantry officers and non-commissioned officers (NCOs) illustrates this finding. Using standardized scores from Borden’s (1980) study, we compared the performance of 304 company commanders, platoon leaders, and platoon sergeants with relatively high, moderate, and low experience, intelligence, and stress with their immediate superior or boss. The vertical axis of Figure 1 displays mean performance, as rated by two to five superiors; the horizontal axis shows the three levels of stress. As can be seen, the more intelligent leaders performed best under low stress and least well under high stress. *Inexperienced* leaders perform best under low stress and least well under high stress¹ (Figure 1).

¹ Note that the leader’s perception of stress is essentially uncorrelated with the performance evaluation of the leader by his superiors.

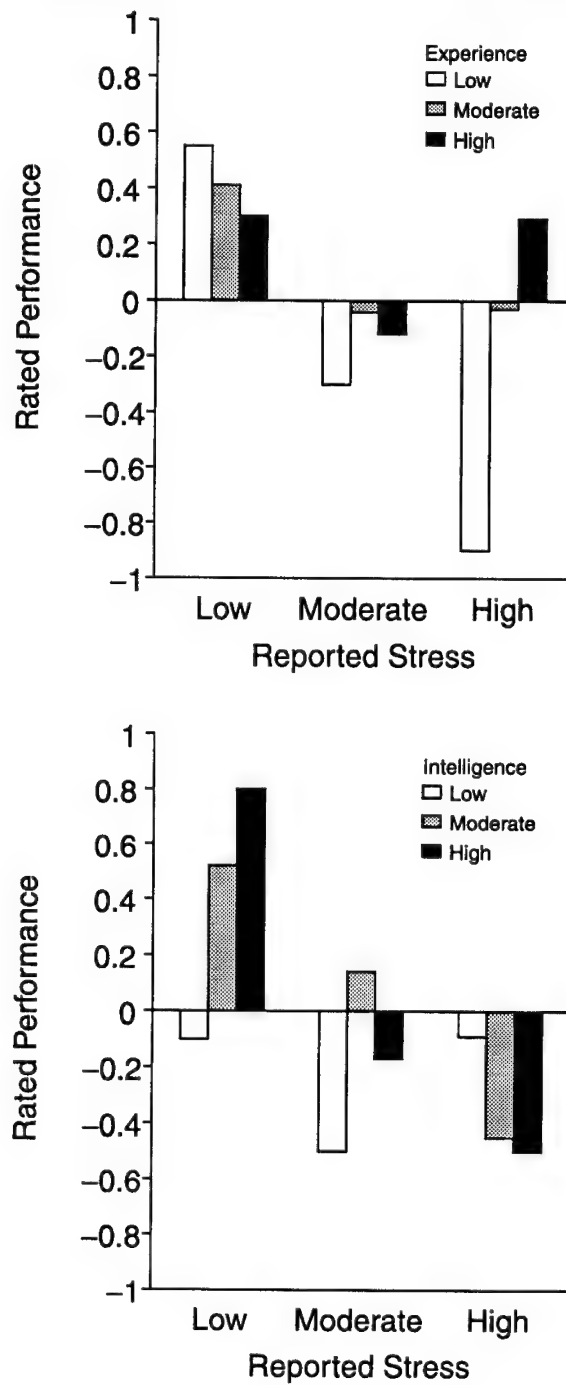


Figure 1. Rated performance as a function of experience and intelligence, and reported stress (company commanders, platoon leaders, and platoon sergeants). (Source: Borden, 1980)

3. ***Intelligence and experience.*** Although it is said that only bright people learn from their experience, we find no evidence for this belief. Correlations between experience and performance are no higher for relatively more than for less intelligent leaders.

4. ***Ability to retrieve experience-based knowledge and skills.*** We also find no evidence that leaders, especially under stress, can deliberately call on their experience or deliberately communicate the fruits of their experience to members of their group. Rather, the retrieval of experience-based leadership skills and knowledge seems to be triggered by stressful conditions. Neither the more directive nor the more motivated leaders used their experience more effectively than relatively nondirective or unmotivated leaders. Thus, exhortations to “remember how you did it before” will not necessarily produce effective leadership performance.

5. ***Interference between experience and intellectual abilities.*** The most puzzling finding in our research concerns the negative correlations between experience and performance under low stress, and the negative correlations between intelligence and performance under high boss-stress. In order to explain these counter-intuitive findings, we note that intellectually demanding tasks such as decision making and creative work require careful deliberation and weighing of alternatives. Crises, emergencies, and situations of high uncertainty make it difficult to think calmly and logically. Unless covered by extensive prior drill, these situations call for quick and decisive action based on intuition and hunch, both of which are products of previous experience. When there is high uncertainty, or little time to think, we generally fall back on what has worked in the past. Leaders with a large repertoire of previously successful behaviors are more likely to perform well than those who lack this fund of experience.

But when is high intelligence detrimental to performance under stressful conditions and experience detrimental under stress-free conditions? To account for these findings, we assume that people seek to capitalize on their strengths. Thus, when faced with a problem, bright people tend to rely on their intellectual abilities (Gibson, Fiedler, & Barrett, 1990; Locklear, 1989); highly experienced people tend to rely

on hunch and intuition that come from experience, rather than on creative and analytical thinking.

This presents a conflict since the leader cannot simultaneously think in a creative or analytic manner as well as react automatically on the basis of intuition, hunch, and previously learned behavior. Thus, under stressful conditions, when an immediate response is called for, intelligent leaders want to delay action in order to weigh all other alternatives. This inhibits or interferes with the automatic, experience-based response to the stressful situation and results in a negative correlation between intelligence and performance.

Under low stress, intellectually demanding tasks (e.g., decision making) require deliberation and careful weighing of evidence. But the highly experienced leader tends to become impatient with "all the unnecessary talk" in the belief that "we already know what to do and we don't need another study." Hence, the greater the experience, the greater will be the leader's tendency to short-cut or denigrate the needed deliberation, and the more negative will be the correlation between leader experience and group performance.

6. *Linking Cognitive Resource Theory and other contingency theories.* Contingency theories postulate that situational factors moderate the relationship between the leader's personality or behavior and organizational performance (e.g., Fiedler, 1967; House, 1971; Vroom & Yetton, 1973). Experience constitutes one important link among these theories: Experience increases task structure which is a prominent component in most, if not all, contingency theories.

The effect of experience is best seen in the Contingency Model. This theory predicts that task-motivated leaders perform best in high- and low-control situations while relationship-motivated leaders perform best in moderate-control situations (see meta-analyses by Strube & Garcia, 1981; Peters, Hartke, & Pohlmann, 1985). Experience increases situational control since job methods become more routine and outcomes more predictable (see Fiedler, 1966; 1967; Fiedler & Garcia, 1987). An increase in situational control from low to moderate thus increases the performance of relationship-motivated leaders, but decreases the performance of task-motivated leaders. An increase from

a moderate to high situational control increases the performance of task-motivated leaders, but decreases that of relationship-motivated leaders. Experience, therefore, moderates the relationship between a leader's personality attribute and the group's performance (Figure 2).

Implications for the Effective Management of Human Resources

Selection and placement. Personnel research has produced highly reliable tests and procedures for identifying the most effective managers. Our research makes clear, however, that these tests constitute only the first of two steps. They may well identify the individual's experience or intellectual capacity. But these cognitive resources will not improve performance unless the leadership situation enables the individual to apply them in an effective manner.

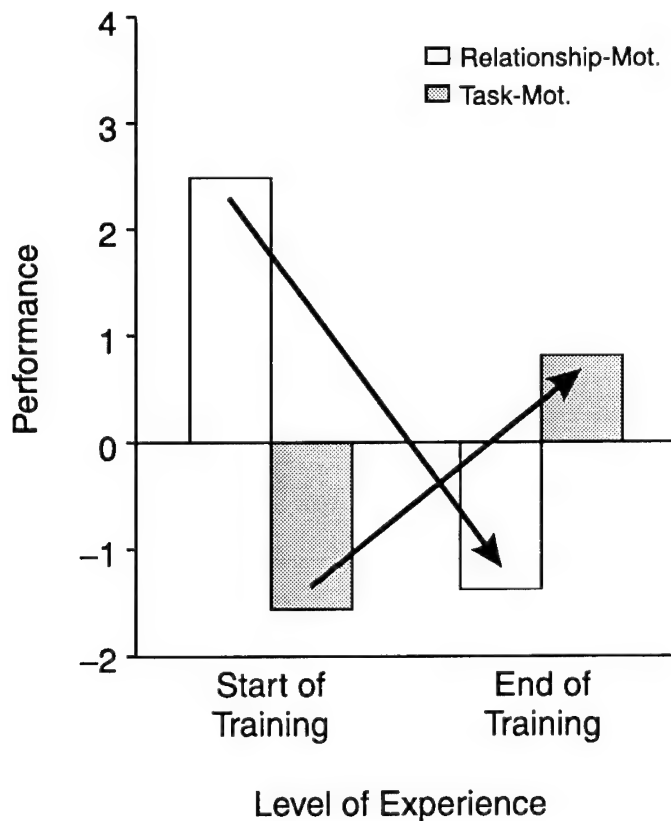


Figure 2. Change in leadership performance as a function of increased experience during the training cycle. (Source: Fiedler, Bons, & Hastings, 1973)

While we cannot make people more intelligent, we can teach them how to make the situation less stressful or to cope more effectively with stress. We cannot make leaders more experienced on short notice, but we can avoid, whenever possible, assigning inexperienced leaders to stressful situations. Costly selection and training methods are wasted unless organizations also see to it that leaders are able to utilize the abilities for which they were hired, or use the skills acquired by training.

This report describes three experiments which illustrate methods for increasing the effective use of cognitive resources. These studies also show that the more effective utilization of experience as well as of other cognitive resources presents a practical and highly cost-effective method for increasing the performance of leaders and their work units.

Chapter 1

The Contribution of Experience to Leadership Performance

*"Good judgment comes from experience...
but experience comes from bad judgment."
—(Anon.)*

We have enormous faith in the value of leadership experience. Practically every managerial hiring or promotion procedure considers the candidate's work history and track record, and in many cases experience is the single most important basis for selecting leaders. We assume that experience provides skills and knowledge that cannot be learned from books. Hence, whether we search for a new police chief, CEO, store manager, or the coach of an athletic team, experienced leaders are almost always preferred to those who lack experience. The value of leadership experience seems intuitively obvious. Who would entrust the command of an Army to someone who has had little or no military experience, or choose an inexperienced surgeon?

Yet, there is little empirical evidence that leadership experience contributes to better organizational performance (Bettin & Fiedler, 1984; Fiedler & Garcia, 1987; Hunter & Hunter, 1984; McDaniel, Schmidt, & Hunter, 1988; Rowe, 1988; Schmidt, Hunter, & Outerbridge, 1986). Nor are there discussions of this topic in most management texts. In fact organizational theorists and researchers have largely ignored the role of leadership experience. For example, Stogdill's (1974) *Handbook of Leadership*, Bass's (1981) revision of the handbook, Dunnette's (1976) *Handbook of Industrial and Organizational Psychology*, or Bittell's (1978) *Encyclopedia of Professional Management* did not carry a single entry in their indexes that specifically referred to experience. One notable exception in recent years has been the research conducted at the Center for Creative Leadership. As part of their executive development program, McCall, Lombardo, and Morrison (1988) interviewed a large number of business executives to

identify, among other things, factors that contributed to or “derailed” careers. In general, however, our knowledge about leadership experience is small and highly inadequate.

Purpose of this report. This report summarizes the major findings on leadership experience conducted during the past 20 years by my colleagues, students, and myself. The report is concerned with leadership experience, and more specifically on the effect which this experience has on the performance of leaders. It is not intended to be a comprehensive review or treatment of the literature on experience in general, nor on such related topics as learning theory, cognition, or developmental psychology. Rather, this report represents an attempt to develop a theory of leadership experience which can serve as a useful guide for future research.

We have concentrated on groups and organizations which have a shared and assigned task, rather than groups devoted to the enjoyment, education, or psychological growth of their individual members. Thus, classrooms, therapy groups, and social organizations fall outside the purview of this monograph, as is the experience of an individual performing a task by himself or herself. The majority of our studies used subjects from the lower and middle levels of military and para-military services, but some studies were conducted with civilian organizations, in part to ascertain the generality of our findings and in part because non-military subjects were more appropriate for testing certain hypotheses. It should be said, however, that we have found few, if any, differences between military and non-military populations, given comparable jobs and task assignments. This introductory chapter discusses some frequently used definitions and operationalizations of leadership experience, briefly summarizes the literature, and lays the groundwork for a more detailed discussion of relevant empirical evidence.

Some comments on methodology. The study of leadership experience presents methodological problems that affect the conduct of research in important ways. Four points need to be emphasized. First, we are dealing with *leadership* experience, that is, experience in managing groups and organizations, not experience in performing an individual task, e.g., driving a truck or selling real estate. Second, it is difficult to conduct realistic experiments on leadership experience

since gaining experience typically takes time. Research by Murphy and Macaulay (1992) shows, for example, that experimentally provided leadership experience has markedly different effects on performance than does leadership experience gained under real-life conditions. Third, leadership training or executive development may well include interesting or useful "experiences," but they are not equivalent to such leadership experiences as managing a company or leading a military unit. For these reasons, a good deal of our theorizing has to be inductive and based on already existing data. And fourth, experience means learning from past events. Thus, we cannot hope to understand leadership experience without also considering its connection with other cognitive processes and abilities as well as the emotional and affective concomitants in the situations in which experience was gained. Most of the empirical data on experience come from military and para-military organizations. These organizations contain numerous identical units with comparable tasks under comparable conditions, which enables us to obtain reliable performance measures. We begin with defining the key terms used in this report.

Definitions

Leadership. Leadership is a quality that, depending on whom one asks, is either difficult to define (cf. Bass, 1981; Hollander, 1978), indefinable (Perrow, 1972; McCall, Lombardo, & Morrison, 1988) or illusory (e.g., Calder, 1977; Pfeffer, 1977). However nebulous the concept might be, people tend to know it when they see it. To generate a working definition, Bass (1981) in *Stogdill's Handbook of Leadership* attempts to circumscribe all the various aspects involved in recognizing leadership and then concludes that "Leadership is an interaction between members of a group. Leaders are agents of change, persons whose acts affect other people more than other people's acts affect them. Leadership occurs when one group member modifies the motivation or competencies of others in the group" (p. 16).

This broad definition is difficult to operationalize. For the purposes of interpreting quantitative studies of leadership effectiveness, we will rely here on a previously proposed definition (Fiedler & Garcia, 1987) that "Leadership, as we use the term, refers to that part of organizational management that deals with the direction and supervision

of subordinates” (p. 3). For most purposes, studies treat leadership as an all-or-nothing affair: one is either a leader or one is not. Thus, a president, elected by 50.5 percent of the electorate is a 100 percent president, and a person appointed to a leadership position is generally accepted as a leader, even if group members would have preferred someone else.¹⁻¹

Definitions of Experience

Experience is, at various times and in various contexts, identified with age, tenure, time in organization, occupation, service, position, rank, and location (Fiedler & Garcia, 1987; McEnrue, 1988; Schmidt, Hunter, & Outerbridge, 1986). Either implicitly or explicitly, experience is equated with informal learning, that is, the acquisition of knowledge, skills, or abilities (McDaniel & Schmidt, 1985). As such, two basic themes emerge from the assorted definitions of experience. These are the requirements of time and relevance. In contrast to formal training, lectures, seminars, workshops, or supervised internships, etc., experience generally implies that the process by which the individual acquired skills and knowledge was an informal one, and that it occurred over a period of time. Thus, such definitions as time in the organization, occupation, position, etc., assume for better or worse that leaders will acquire the relevant knowledge, skills, and abilities if given the opportunity to do so.

In theory it might be preferable to separate the opportunity to learn—experience—from the actual learning that has taken place—expertise or job knowledge. This was attempted by Schmidt, Hunter, and Outerbridge (1986) who developed a causal model that shows (among other things) the impact of job experience on job performance. Their model, derived from path-analysis, shows a major effect for job experience on job knowledge, and for job knowledge on job performance, but only a minor, indirect effect of job experience on job performance. This is also suggested by a study which examined the validity of four different approaches to evaluating personnel training and experience. McDaniel and Schmidt (1985) found that the number of years of training and experience had the weakest correlation with individual

¹⁻¹ I am indebted to Dennis Hrebec who contributed to the literature review of this chapter.

performance (.14) while the measure of an applicant's previous achievements had a moderately high correlation with performance (.46).

Operational Definitions of Experience

Since there is no single best, or generally accepted definition of experience, different operationalizations yield different results. Experience, as it pertains to the work environment, is defined, for example, by *Webster's Unabridged Dictionary* (McKechnie, 1966) as "...anything observed or lived through, as well as time spent in a job or an organization, or the period of such activity as teaching experience" (p. 645).

What is the manager's experience likely to be? According to Mintzberg (1973), and McCall, Lombardo, & Morrison (1988) among others, the manager's or leader's job is highly fragmented and varied. The leader must monitor what the group members are doing while also attending to the environment in which the group operates (McCall, Lombardo, & Morrison, 1988). In a management job, much of life is spent trying to stay afloat and to keep things under control. The leadership job, therefore, is often stressful since it requires attending to innumerable problems, brush fires, and mini-crises. On the basis of incomplete information, the leadership job may well be learned early in one's job tenure (McDaniel, Schmidt, & Hunter, 1988; Lindsey, Holmes, & McCall, 1987; McCall, Lombardo, & Morrison, 1988). How, then, can we define and measure what we mean by experience?

Time in service (TIS) indicates the time an individual has spent in an organization. This is, in fact, the most commonly used operationalization of experience ("How long have you worked in X company?"). Time in position (TIP) indicates how long a leader has held a particular leadership position. TIS, tenure, and other time-based measures have their limitations and advantages. While these indices are highly reliable and easily obtained, they do not encompass the relevance, richness, or diversity of previous jobs. They basically indicate the opportunity to gain job-relevant information, skills, and knowledge. Time-based experience measures do not tell us specifically what has

been learned, but they are especially useful in such organizations as the military or para-military services in which almost all leaders who hold a job at a particular level have progressed on a similar career ladder. These leaders, therefore, have been exposed to similar learning opportunities, and in many cases have had to demonstrate their job-relevant knowledge before being promoted to the next higher leadership position.

A related measure, *time in leadership positions* or *leadership experience*, is usually based on the individual's self-report of previous leadership jobs. It assumes that there are certain skills and knowledge specific to the act of leading others, and that these are learned in the course of directing groups and organizations. Unfortunately, this measure is highly vulnerable to memory lapses, distortions, and exaggeration. Even more important, there is considerable difficulty in how to define and evaluate what constitutes a leadership position. Supervising a three-man work crew is not equivalent to managing a multi-national corporation, nor is chairing a monthly committee meeting for two years equivalent to managing a company for the same length of time.

Time in a work unit indicates how long the leader has been in a particular work group, thus getting to know the characteristics and idiosyncrasies of co-workers, machinery, and the job. This index presents difficulties since it is often unrelated to time in the organization or time in leadership positions: Someone with 10 years in an organization may have led the same work unit for 10 years or joined the work unit only two weeks ago. There is no question that time-based measures of experience have their limitations. However, as we shall see, certain time-based indices correlate highly with performance under given conditions, and this suggests that we are dealing with important and meaningful measures.

Diversity of experience. Among the experience measures not based on time is the diversity or breadth of an individual's leadership experience. In operational terms, this measure can be defined as the number of different leadership jobs an individual has held, or the similarity in job functions among the different leadership jobs held by that individual.

Relevant experience is defined as the degree to which job functions in the previous position and the present position overlap. Having been assistant manager of the accounting department constitutes as relevant experience for becoming that department's manager, while having been an auto mechanic does not. Bettin (1983) and Bettin and Kennedy (1990) recently described a very sophisticated method for measuring relevant experience by scaling the overlapping job functions in the present and previous jobs. While the measure is promising, it is complex and time-consuming, and for this reason difficult to apply in practice or in organizational research.

Experience as overlearned behavior. The common thread that runs through all definitions of experience is the implication that experience gives the individual the opportunity to learn and repeatedly practice the skills, behaviors, and policies that are effective in coping with recurrent problems. These repeated practice results enable the leader to react quickly and without much deliberation under conditions of stress. In exceptional cases, experience may also be the result of a traumatic event which becomes permanently etched in the individual's memory. In effect, "experience" results in highly automatic behavior in the sense in which scripts and related concepts are described by Abelson (1976, 1981).

Expertise and job knowledge. Expertise is generally defined as the specialized knowledge and skills needed to perform a specific job. By definition, technical knowledge or expertise implies that intellectual ability alone is not sufficient to perform the task. Those who supervise technical people like computer programmers, jet engine mechanics, etc., need to have sufficient technical knowledge that enables them to instruct, assist, and evaluate their subordinates. This technical knowledge is at least in part acquired through experience. However, more than adequate job knowledge does not lead to better managerial performance.

Is experience the equivalent of job knowledge? Lord and Hall (1993) recently suggested that time-based experience measures such as age and organizational job tenure serve as proxies for more psychological variables (e.g., expertise) which reflect a leader's knowledge structures acquired through learning (p. 144). If this is the case,

measures of leader experience and job knowledge should be highly correlated. This hypothesis can be tested in several sets of data.

a. One study of 52 Army mess halls conducted by Blades (1976) provided two experience measures, Time in Service and Time in Unit, as well as scores obtained by mess stewards on a Quartermaster Corps test on food service and mess hall management.

b. In the course of an information search experiment, Locklear (1989) administered a job-knowledge test for infantry leaders to 37 present or former platoon leaders and 25 platoon sergeants. This measure of job knowledge was then correlated with Time in Service and Time in Unit.

c. A study of artillery crews (unpublished) enabled us to correlate the artillery crew chiefs' self-reported leadership experience and the estimated expertise as indicated by the number of months they had spent in various technical training programs.

The results of these analyses are shown in Table 1-1. As can be seen, these data do not justify the conclusion that experience, at least as measured here, is equivalent to job-knowledge or expertise.

Table 1-1. Correlations Between Leadership Experience and Expertise

Sample	Experience	Job Knowledge	Correlation
Mess stewards	Time/service	Job-knowledge test	-0.30 (30)
	Time/unit	Job-knowledge test	0.09 (30)
Infantry officers	Time/service	Job-knowledge test	0.00 (37)
	Time/job	Job-knowledge test	0.18 (37)
Infantry NCOs	Time/service	Job-knowledge test	0.17 (25)
	Time/job	Job-knowledge test	0.47* (25)
Artillery crew chiefs	Leader experience	Time technical training	0.14 (55)

* $p < .05$; in all tables, size of samples indicated in parentheses unless otherwise noted.

Intelligence. Learning of any kind requires intelligence. As with experience, there again is no common agreement on what is meant by intelligence. Sternberg and Detterman (1986) list no fewer than 21 different definitions. We shall follow Berry (1986) in conceptually defining it as "the end-product of individual development in the cognitive-psychological domain but not motor, emotional and social functioning." This definition does not negate that the concept of intelligence encompasses different mental abilities. We have measured intellectual abilities in almost all studies by generally accepted standardized tests which are described where appropriate.

Experience as a construct. One important question concerns the construct validity of leadership experience. Specifically, are time-based measures of experience intercorrelated to a sufficient degree to be considered measures of the same construct? As can be seen from Tables 1-2 and 1-3, as well as others shown in subsequent chapters, the intercorrelations are positive and statistically significant. Although generally no more than moderate in magnitude, they do permit us to think of experience, and especially of time-based measures, as constituting a meaningful construct. The correlation matrices shown on Table 1-2 come from studies of fire service officers.

A study by Murphy and Macaulay (1992) asked college students to report various types of experience they had prior to entering college. These included high school activities, chairing committees, and managing work groups outside of school. The inter-correlations of

Table 1-2. Inter-correlations Matrix of Experience Measures of Fire Service Leaders

	Time in Service	Time as Officer
Lieutenants (N=76)		
Time as officer	0.27*	—
Time in present unit	0.27*	0.48**
Captains (N=45)		
Time as officer	0.69**	—
Time in present unit	0.50**	0.41**

* $p < .05$; ** $p < .01$

these self-reported types of experience are shown on Table 1-3. However, these correlations must be interpreted with caution. On one hand, since the measures of experience were all based on self-reports, they are likely to be affected by response sets which tend to inflate the inter-correlations. That is, each individual may tend to exaggerate or under-report the time spent in previous leadership experiences to some characteristic degree. On the other hand, the measures are not independent since time spent in one activity necessarily limits the time that can be spent in other activities, thus reducing the correlations. For example, a student who holds a managerial job after school will have less time for participating and holding leadership positions in school activities.

Table 1-3. Correlations Among Self-reported Measures of Leadership Experience (n=140) (Source: Murphy & Macaulay, 1992)

	1	2	3
1. High-school activities			
2. College activities	0.32**	—	
3. Committee chairs	0.43**	0.32**	—
4. Managerial jobs	0.27**	0.30**	0.47**

** $p < .01$

Experience as a Predictor of Performance

As already pointed out, previous experience is often the principal determinant of hiring and promotion decisions (Levine & Flory, 1975; McDaniel & Schmidt, 1985; Mills, 1985). For many important jobs—the critical leadership positions in government, industry, and the military—experience is strongly preferred and usually required (Bettin & Fiedler, 1984; Fiedler, 1970). However, at least insofar as empirical research on leadership is concerned, the old adage that experience is the best teacher does not hold. Table 1-4 summarizes a wide variety of studies, most from our own research program, in which various experience measures were correlated with appropriate performance criteria.¹⁻²

¹⁻² In most of our studies, performance was rated by 2 or more knowledgeable superiors on an 8-item Likert scale, or an adaptation of that scale. The 8 items described behaviors which were considered by expert judges to be essential to effective performance in the military

While most of the correlations on Table 1-4 are positive, they are remarkably close to zero. Neither age nor time in the organization, in the job, or in leadership positions predict performance. It is especially interesting that only 4 of the 41 correlations were significant, while two significant correlations could be expected by chance. Nor were any of the correlations substantial. Interestingly enough, the various measures, including time in leadership positions, correlated no better with performance than "life experience," i.e., age.

This set of results is consistent with our everyday observations as well as history: Almost any organization can point to some young and relatively inexperienced managers whose performance is outstanding, and to some experienced "old" hands who fail to perform up to expectations. This also accords with historical evidence: Joan of Arc, the Marquis de Lafayette, Alexander the Great, and William Pitt became outstanding leaders before they were 25 years old. Several of the most effective U.S. presidents, e.g., Abraham Lincoln or Harry Truman, had little managerial experience, while some U.S. presidents with a great deal of leadership experience, e.g., Zachary Taylor, Franklin Pierce, or Herbert Hoover, were among the least effective.

Specific Questions in Relating Experience to Performance

While Table 1-4 shows that there is a general lack of relationship between experience and performance, several more specific questions need to be asked. One, for example, concerns the possible difference in the use of experience at various levels of the organizational hierarchy. Another question concerns the comparative performance of highly experienced and relatively inexperienced leaders under experimentally controlled conditions.

Post office managers. The apparent inability to benefit from tenure in an organization at different levels of management can be seen

services. The behaviors were appropriately reworded for civilian leadership situations. The items of interest were identified by a factor analysis (Bons, 1974) as a task-performance cluster. They asked superiors to rate on a 5-point scale whether the leader exceeds, meets, or fails to meet expectations in how well he carries out administrative actions, is technically proficient, takes initiative to propose and initiate innovations, organizes his group, handles the job when demands are extra heavy or when he finds himself under heavy pressure. The scale had a split-half reliability of .92 and inter-rater agreement of .65 (see Bons & Fiedler, 1976).

Table 1-4. Correlations Between Various Measures of Experience and Performance (Source: Fiedler & Garcia, 1987)

Sample	Age		Time in Organization		Leadership Position		Time in Position	
	r	N	r	N	r	N	r	N
Army squad leader	0.18#	95	0.18*	123	0.22*	102	0.03	128
Army platoon sergeant			0.01	150			-0.05	146
Army first sergeant			0.19	41			0.02	41
Coast Guard officers			0.18*	130				
Company manager			-0.28#	31	-0.01	31	0.38*	31
Fire lieutenant	0.08	55	-0.02	55	-0.14	54	0.29*	54
Fire captain	-0.14	33	-0.07	33	0.17	33	-0.11	33
Hotel managers	-0.41**	191			-0.26**	191		
Meat dept. mgr.	-0.14	19	0.15	21	-0.12	20	0.11	21
Grocery manager	0.09	24	-0.08	24	-0.06	24	0.17	24
Research chemist team ldr.	0.15	18	0.10	18	0.17	18	0.12	18
Univ. dept. chair/head	0.06	24	0.15	24	0.23	24	0.38	24
High-school basketball	0.06	36	0.27 ^a	36	-0.02 ^b	36		
Medians	0.08		0.10		0.08		0.11	

$p < .10$; * $p < .05$; ** $p < .01$ ^a Yrs played basketball; ^b Yrs played on high-school teams.

from data of U.S. post office managers and supervisors of 21 medium sized post offices in the State of Illinois (Fiedler, Nealey, & West, 1969). The average tenure of post office foremen or first-level supervisors at the time of the study was 21 years with a range of over 30 years. Performance evaluations were obtained from two to five superiors and these evaluations showed considerable inter-rater agreement.

Table 1-5. Correlations Between Length of Service in Present Position and Rated Performance of Post Office Managers and Supervisors (Source: Fiedler, Nealey, & West, 1969)

Position	r	N
Assistant postmaster	-0.03	8
Superintendent of mails	-0.22	17
Asst. supt. of mails	0.09	17
2nd-level supervisors	0.22	14
1st-level supervisors	0.03	137

Post office officials felt that ratings would be inaccurate for managers who had just recently assumed their current positions, and also for those who repeatedly had been passed over for promotion. Therefore, as recommended, correlations were computed only for those with more than 1 year and less than 10 years in their present job. However, this correction did not materially change the correlations (Table 1-5).

We must also consider the possibility that many of those with long tenure are not promotable, and those who consistently perform poorly are either discharged or become discouraged and leave, while those with high ability or motivation are promoted. For this reason we also compare experienced and relatively inexperienced leaders who participated as subjects in laboratory and field experiments.

The Belgian Navy Study. One study was conducted with personnel of the Belgian naval forces (Fiedler, 1966). In 48 of the 96 participating groups, the assigned leaders were petty officers with an average of 11 years of naval service, after having graduated from petty officer candidate school. In the other 48 groups, the assigned leaders were young recruits with less than 8 weeks of naval service. Half of the groups were culturally homogeneous, consisting either of three Flemish or three French-speaking members; the other groups were heterogeneous, with either a Flemish or a Francophone leader and two members from the other cultural group. Petty officers and recruits did not differ significantly on measures of intelligence, motivation, or leadership style (LPC) (see Chapter 6 for a discussion of this measure).

The three-man groups performed four tasks. They were to (a) route a hypothetical ship convoy through 10 ports in the shortest way, (b) route the convoy through 12 ports, (c) write a letter urging graduating high school students to join the Belgian naval forces as a career, and (d) without the use of language instruct their group members how to assemble and disassemble a .45 caliber automatic pistol. Criteria (a), (b), and (d) were objectively scored, while criterion (c) was based on ratings of four independent judges.

If previous leadership experience contributes to performance, we would expect high intercorrelations among performance scores on the four tasks, since the highly experienced petty officers would presumably perform better than inexperienced recruits. This was clearly not the case. The median intercorrelations among the tasks was only .14 ($N=96$). Most important, a comparison of mean performance scores of teams led by petty officers and by recruits revealed no significant differences, not even on the handgun assembly task, a task in which an experienced military man had superior technical knowledge (Table 1-6).

The Canadian Leadership Experiment. We performed a replication of the Belgian Navy Study with even more disparate groups as part of a two-day leadership workshop for the Canadian Armed Forces (Fiedler & Chemers, 1968). This study compared three-man teams led by officers and by recruits. The officers were captains and majors with an average of 8 years of military experience and the recruits had been recently inducted with no previous military experience. All group members were recruits. All Canadian officers were graduates of

Table 1-6. Mean Performance of Teams (in t-scores) Led by Experienced Petty Officers and Inexperienced Recruit Leaders of Three-man Teams on Four Different Tasks ($N's=48$)

	Petty Officers	Recruits
Recruiting letter	50.81	49.21
Routing task 1	49.84	49.67
Routing task 2	49.47	50.33
Handgun assembly	50.76	49.24

Differences between means not significant

military colleges and were more highly motivated than the enlisted men. The experimental tasks were selected in cooperation with senior Canadian officers in order to make these tasks similar to those officers might be asked to perform as part of their duty.

On the first day of the workshop, the groups were instructed to (a) write a recruiting letter, (b) find the shortest route for a truck convoy, and (c) transform a fictional test score distribution to standard scores (based on instructions), compute means, and draw bar graphs. The recruiting letter was judged by all officers in the study (inter-rater agreement .98). The other two tasks were scored objectively. On the second day, all teams were led by officers. The tasks required the three-man groups to decipher two cryptograms and convert a plan for an Army barrack by converting it from inch to metric scale. Both tasks were scored objectively. Team membership was changed after each task.

As in the Belgian study, there were no significant differences between the highly experienced officers and the inexperienced recruit leaders on the first three tasks on which they could be compared (Table 1-7). These results are all the more surprising because the officers not only had substantially more experience but also higher mean intelligence scores than the recruits. In fact, the recruit leaders' teams performed somewhat better on the convoy task than did the teams led by officers. Correlations between the officers' performance and their military leadership experience could be obtained for each of the tasks given on the second day. Not only were none of these correlations significant, but three were in the negative direction (.03, -.32, -.30, -.21, and .42, $n's=15$).

Table 1-7. Mean Performance Scores of Teams Led by Experienced Officers and Inexperienced Recruit Leaders (N's=7) (Source: Fiedler & Chemers, 1968)

Task	Officers	Recruits	t/Difference ^b
Recruiting letter	9.30 ^a	11.72	0.38
Routing a convoy	70.12	66.33 ^a	0.32
Bar graphs	18.75 ^a	13.86	0.77

^a Indicates better performance

^b Differences between means not significant

Diversity of Leadership Experience

According to organizational lore, broad and diverse background experience gives the leader perspective and a better ability to understand the organization as well as the world of business. Based on this widely held assumption, the military services, as well as many civilian organizations, periodically move their top executives from one department or plant to another, and from location to location in a deliberate effort to enhance the value of these managers to the organization. In many organizations, a person must serve in several different line and staff positions before being considered for promotion to the upper levels of management. These rotation policies presumably give leaders a broader perspective by exposing them to a variety of different problems in the organization.

The relocation of an executive from one location to another almost invariably entails considerable expense to the organization and major disruptions in the life of the executive and the affected family. The problems are vastly exacerbated in families in which the marriage partners pursue separate careers. There may, of course, be certain intangible benefits to these rotation policies. For example, the executive is likely to learn a new language, make important contacts, and gain an organization-wide or international perspective. But is there evidence that a diversity of experience contributes to better leadership performance?

Bettin (1983) and Bettin and Kennedy (1990) conducted a study of 44 company commanders and 40 battalion staff officers; all but 7 held the rank of captain. Complete data were available on 77 officers. Infantry company commanders lead units numbering from about 100 to 200 men. Battalion staff officers are aides to the battalion commander and their work is primarily technical as here defined, and principally done alone or with the aid of one or two assistants. Practically all infantry captains serve as company commanders as well as battalion staff officers in the course of their career. Whether they were company commanders or staff officers at the time of the study was, therefore, essentially randomly determined.

The officers completed a detailed work history as well as various other tests and questionnaires. Experience was defined as "...knowledge, skill, or practice derived from participation in, direct observation of, an activity." Three senior officers reviewed the detailed work history of the subjects, and then used an 11-point scale to rate "How experienced is this officer with respect to his current position?" Inter-rater reliability corrected for number of raters was .78 ($p < .001$). A second panel of judges rated the degree to which the functions of a particular job (e.g., platoon leader) differed from, or overlapped with, the functions of the individual's current job as company commander, intelligence officer, etc. These ratings provided a measure of the diversity of prior experience. The diversity score was based on the number of different jobs the individual had held while in the military (range 1 to 13, mean 6.31) and the degree to which the various functions of these jobs overlapped. Thus, there is considerable overlap in the functions of commanding an infantry company and an infantry platoon, but little overlap between the functions of an intelligence officer and a company commander.

Leadership performance was rated on a scale of 49 Likert items based on previous scales by Bors and Fiedler (1976) and Borden (1980) ($\text{Alpha} = .996$). Superiors were asked to rate on a 5-point scale the degree to which the subordinate's performance exceeded, met, or failed to meet performance standards on such items as "how well he carries out administrative actions," "how well he organizes his group," "how well he handles his job when the demands are extra heavy." Ratings by the two immediate superiors of the subject correlated (0.62, $N=77$, $p < .001$). The diversity of experience measure was completely uncorrelated (.00, $n=42$) with the performance of company commanders, but correlated .33 ($n=35$, $p < .05$) with the performance of staff officers. It is even more interesting that the diversity measure correlated negatively ($-.34$, $n=20$) with performance for officers in the highest third in intelligence within that sample, and .10 for officers in the lowest third in intelligence. Thus, the more intelligent leaders did not benefit more from diverse experiences than did those of lower intelligence. If anything, having had different jobs tended to detract from the performance of the brighter officers.

A similar finding emerges in the study of a civilian sample of community college presidents who did, or did not, have non-academic experience prior to assuming their academic appointments (Fiedler & Gillo, 1974). It may be taken for granted that all of these presidents fell well above the mean of intelligence scores for the general population.

This particular study encompassed all 26 community colleges of the State of Washington, although complete data for this particular analysis were available for only 17 of these colleges. Community colleges are two-year schools located in various parts of the State and overseen by a Community College Board which is appointed by the Governor. The job of the community college president requires (a) administering the school in an efficient and economical manner, (b) providing effective leadership in developing and administering the academic program that will allow students to transfer to four-year institutions, and (c) developing and administering a vocational education program that will enable graduating students to obtain appropriate employment.

Community college presidents, unlike most academic administrators, are often drawn from the business world. This is based on the belief that the vocational education mission of the community college is best served by someone who knows the business world and, therefore, better understands the needs of the community than someone who has inhabited the ivory tower all through life.

The presidents' performance was rated in each of the three job aspects by a sample of peers, by the staff of the community college board, and two professors of higher education from the state's two research universities. There was substantial agreement by raters on the most and least effective performers in each of the three job areas, and all ratings were, therefore, pooled. Diversity of background was defined as the proportion of the individual's professional life devoted to non-academic professional work prior to joining the community college (cited in Fiedler & Garcia, 1987).

The correlations between diversity of background of college presidents and their performance in the academic and administrative realm

were negative rather than positive (Table 1-8). In other words, diverse previous non-academic experience was related to poorer rather than better performance in the academic and administrative areas. Experience in non-academic settings was neither beneficial nor detrimental to performance in developing vocational programs. It is obvious that two studies are not sufficient for broad-ranging conclusions. They should, however, give pause to those charged with mounting expensive rotation programs in their organization.

Table 1-8. Years of Non-academic (Diverse) Experience of Community College Presidents and Rated Achievement in Three Aspects of Academic Administration (N=17)

Achievement in	r	p
Academic administration	-0.41	0.10
Academic program	-0.46	0.10
Vocational program	-0.02	N.S.

Summary

This chapter briefly reviewed various definitions of leadership experience and proposes that experience can be interpreted basically as overlearned knowledge, skills, and behaviors. Experience may well contribute to the performance of individuals in technical or specialist positions, but we have found no evidence that leadership experience, however measured, contributes significantly to the leader's or the organization's performance. While this might lead one to believe that experience plays no role in determining leadership performance, this conclusion would run counter to common sense and every learning principle we know. The question is rather, *under what conditions* does the leader's experience contribute to present and future performance? Answering this question is the main task of the chapters that follow.

Chapter 2

The Leadership Situation and the Environment

We begin with a brief consideration of what constitutes the leadership situation, that is, the work environment in which the leader operates. In large part, the leadership situation is defined by what the organization expects of the leader: (a) to get the job done in a cost-effective manner, and (b) to make no waves, i.e., to keep the work force as motivated and satisfied as possible. At the same time, the leader must satisfy the needs and demands of the immediate subordinates, the "direct reports." The leader must not only have dependable and reliable subordinates for implementing plans and action strategies, but in many cases their social support and affection. For this reason, there is usually some conflict between the organization's demands and the leader's personal agenda. Thus, the leadership situation is the arena in which the leader has to reconcile the competing demands of the organization and of his or her own needs. Definitions of the leadership situation by other researchers have included physical locale (Sells, 1976), group member ability and motivation (House, 1971), organizational climate and structure (Burns & Stalker, 1961), task difficulty and complexity (Vroom & Yetton, 1973), and interpersonal relations and stressfulness of the task (Fiedler & Garcia, 1987).

At lower levels of the organization, the leader is involved primarily in the micro-decisions of day-to-day management. Should Mr. Itty get a new waste paper basket? Should we call Ms. Freeble about the late shipment? Should the big boss be informed of Mr. Plunkett's repeated tardiness? All this suggests that the leader must learn to make quick judgments and decisions about a wide variety of subjects, often under pressure, and with very little time to think (McCall, Lombardo, & Morrison, 1988; Mintzberg, 1973). At successively higher levels, at least some of the decisions (but by no means the majority) are made for correspondingly longer time spans, e.g., building a new store, developing a better public image (Jacobs & Jacques, 1987). How the situation affects the leader and the group has been the critical question

posed by the Contingency Model of Leadership Effectiveness (Fiedler, 1964, 1967). This theory provides an operational measure of the situation which has demonstrated its value in numerous empirical studies (see, for example, the meta-analysis by Strube & Garcia, 1981). It provides, therefore, a useful starting point for this discussion.

Situational control is defined by the Contingency Model as the degree to which the environment is structured and predictable. High situational control, therefore, gives the leader a feeling of confidence, of being able to determine the outcome of the task and the group process. A lack of structure and predictability causes stress, uncertainty, and a feeling of being powerless which is usually associated with anxiety. It is important to note, however, that some people perform best when they have relatively low control and feel under some stress, i.e., jobs involving challenge, uncertainty, and risk.

The leadership situation also plays several additional roles. It (a) provides the raw material for gaining experience, that is, the informally acquired job-relevant knowledge, skills, and behaviors; (b) enhances the leader's self-efficacy; and (c) enables the leader to impose structure on the task. Above all, however, (d) it moderates the relationship between experience and the performance of the work unit. We shall discuss two important characteristics of the leadership situation. One is the leader's ability to control the group process and the outcome of the task. The second, considered in the next chapter, concerns the moderating effect of stress with which the leader has to deal.

According to the Contingency Model, situational control is high to the degree to which (a) the leader has good relations with, and is supported by, the group, (b) the task is highly structured, and (c) the leader enjoys position power. In computing situational control, leader-member relations, task structure, and position power are weighted, respectively, 4:2:1, indicating the relative importance of the three factors. These relative weights have had empirical support (Nebeker, 1975; Mitchell, 1968). Moreover, as Borden (1980) and Beach and Beach (1978) have shown, situational control is closely related to uncertainty about the outcome of the environmental demands and the task. We consider here what effect these three components of

uncertainty have on the contribution which the leader's experience has on performance.

Leader-Member Relations (LMR). It is easy to see why a supportive group contributes to situational control. Co-workers who are reliable and dependable, and who trust their leaders, will do the leader's bidding more willingly and better than those who do not support their leaders. Complete and unqualified support of the leader is, in fact, the hallmark of charismatic leadership (Bass, 1990; House, 1977). The supported leader will be better able to implement his or her plans and action strategies than one who lacks group support. To the extent to which the leader's experience is valuable, the supported leader therefore ought to perform better than one who is not supported.

This reasoning led Blades (Blades & Fiedler, 1976) to hypothesize that leader intelligence correlates with performance if (a) the leader communicates his or her plans and action strategies to the group in the form of directive behavior, and (b) the group is supportive and motivated to comply with the leader's instructions (see also Fiedler & Garcia, 1987). In groups in which the leader does not have support, the leader's ideas and directions apparently cannot be implemented, and the correlations between leader intelligence and performance are non-significant or negative. We expected, therefore, that experience will correlate with performance more highly when the leader has group support than when this is not the case.

Group support has been measured in several different ways. One method that was widely used in our research relied on Group Atmosphere (GA) scales which described the group climate on 10 or more 6-, 7-, or 8-point bi-polar adjective scale items. For example,

Friendly	—:—:—:—:—:—:—:—	Unfriendly
	8 7 6 5 4 3 2 1	
Cooperative	—:—:—:—:—:—:—:—	Uncooperative
	8 7 6 5 4 3 2 1	

More recently group support scores have been based on Leader-Member Relations (LMR) scales developed for a leadership training

manual (Fiedler & Chemers, 1984). These scales which are marked from “strongly agree” to “strongly disagree” contain such items as,

- “My subordinates are reliable and trustworthy,”
- “My subordinates always cooperate with me in getting the job done,”
- “The people I supervise [do not] have trouble getting along with each other” (reverse scored).

In order to test whether leaders with group support make more effective use of their experience than those with low group support, we can compare the correlations between experience and performance for groups in which the leaders either have relatively good or poor leader-member relations. However, contrary to expectations, 7 of the 12 correlations between experience and performance were slightly higher in groups which did not support their leader (Table 2-1). We must conclude, therefore, that group support does not enable the leader to make more effective use of experience (Table 1-1).

Task structure. Task structure is defined in the Contingency Model as the degree to which (a) the task is clearly spelled out and explained, e.g., by a model or a blueprint; (b) standards of performance are clearly indicated, e.g., there are milestones to indicate progress, and fairly exact standards to guide performance evaluations; (c) there is only one best method for performing the task, e.g., a step-by-step procedure; and (d) there is only one correct solution to the task rather than many possible solutions, e.g., a mathematical problem versus an essay. The Task Structure scale contains such items as,

- “Is there a picture, model, or detailed description available of the finished product or service?”
- “Is there a step-by-step procedure or a standard operating procedure which indicates in detail the process which is to be followed?”
- “Is it obvious when the task is finished and the solution has been found?”

Table 2-1. Correlations Between Experience and Performance for Leaders With Good or Poor Leader-Member Relations

	Leader-Member Relations			
	Good		Poor	
	r	N	r	N
Company commanders (Borden)	-0.04	18	0.38#	20
Platoon leaders (Borden)	0.27#	49	0.34*	49
Platoon sergeants (Borden)	0.08	52	-0.24#	52
Squad leaders (Bons) ^a	0.35	35	0.31#	31
Mess stewards (Blades)	-0.10	26	-0.04	26
Mess stewards experienced in job	-0.13	26	0.00	26
Co-commanders TIS (Bettin)	0.09	24	0.02	15

^a High vs. low 1/3 of sample

$p < .10$; * $p < .05$

A highly structured task provides the leader with considerable control. Since the task is generally mandated by the organization, the leader will enjoy full backing for carrying out its specific instructions. Thus, if the task calls for using 4x8 lumber to support a roof, group members will not question the type of lumber that is to be used. If the task calls for writing a position paper on a controversial issue, the leader will almost certainly have to listen to the members of the group, and his or her own opinions will have correspondingly less weight. Likewise, if the task calls for the development of a new product, the team leader has considerably less power than if the task spells out step-by-step procedures. Not surprisingly, an unstructured committee assignment creates more anxiety and more uncertainty about the success of the outcome than the structured task of running an assembly line. Again we compare the utilization of experience in the performance of structured and unstructured tasks. As can be seen, task structure had no effect on the individual's utilization of experience (Table 2-2).

Still another way to determine whether task structure contributes more to the performance of experienced leaders than inexperienced leaders is to compare the performance of structured and unstructured

Table 2-2. Correlations Between Experience and Performance of Leaders With Highly Structured and Highly Unstructured Tasks

Leadership Job	Task Structure	Correlations	N
Highly structured			
Army squad leader	High	0.18	123
Army platoon sergeant	High	0.01	150
Fire dept. lieutenant	High	-0.02	55
Fire dept. captain	High	-0.07	33
Meat dept. manager	High	0.15	21
Unstructured			
Lead research chemist	Low	0.10	18
Univ. dept. chair	Low	0.15	24
Community college president			
Good academic program	Low	-0.46	17

* $p < .05$

tasks by the same leaders. This was possible in the Belgian Navy Study (Fiedler, 1966) (see Chapter 1). In this laboratory experiment 48 three-man groups were led by experienced petty officers and 48 groups were led by young naval recruits. Each group performed one unstructured task (compose a recruiting letter) and two structured tasks (find the shortest route for a convoy through 10 ports and 12 ports). The second task (12 ports) is here used since the previous exposure to the 10-port task further increased the structure of the task. Table 2-3 shows that mean performance on the structured and unstructured tasks was almost identical for experienced and inexperienced leaders.

The study with Canadian military forces (Fiedler & Chemers, 1968) also permits us to compare the performance of experienced and inexperienced leaders on structured and unstructured tasks (see Chapter 1). One highly structured task required the teams to find the shortest route for a truck convoy which had to stop at various towns. A second structured task required the teams to draw bar graphs of score

Table 2-3. Performance (in T-scores) of Experienced and Inexperienced Leaders on Structured and Unstructured Tasks in Laboratory Experiments

	High Task Structure		Low Task Structure	
	Leader Experience		Leader Experience	
	High	Low	High	Low
Belgian navy leaders (N=48)	49.47	50.33	50.81	49.21
Canadian study: Convoy & Fable (N=16)	70.12	66.33	9.30	11.72
Bar graphs (N=16)	18.75	13.86		

distributions on hypothetical military tests. Both structured tasks were objectively scored. The unstructured task consisted of inventing a fable. The mean performance of officers and recruit leaders are also shown on Table 2-3. Again, none of the differences between officers and recruit leaders was significant. In light of these findings it seems safe to conclude that the degree of task structure neither favors nor handicaps the utilization of leadership experience.

Position power. The third component of the situational control scale is defined by the power the organization vests formally or informally in the leader's position. Examples of scale items are

- "Can the leader directly or by recommendation administer rewards or punishment to subordinates?"
- "Does the leader have the knowledge to assign tasks to subordinates and instruct them in task completion?"

Position power turns out to be the least important of the three components; even a leader with very strong position power is immobilized without the support of subordinates (recall what happened to President Nixon just prior to his resignation.) To what extent does it then help an experienced leader to have position power?

While we have many teams in which position power is high, the number of real-life task teams with low position power is more limited. However, in the Belgian Navy Study and the Canadian Study, the

recruit leaders clearly had less position power than did the officers and petty officers. Therefore, Table 2-3 shows that high position power did not enhance the leader's utilization of experience.

In summary, this chapter described the effect of three well-established measures of the leadership situation, used not only in studies of the Contingency Model but also similar to measures used in Path-Goal Theory (House, 1971), Vroom and Yetton's Normative Decision Model (1973), and Life Cycle Theory (Hersey & Blanchard, 1969). There was no substantial evidence that leaders with more situational control are able to make more effective use of their experience than those with less experience.

Chapter 3

Stress and the Effective Utilization of Experience

This chapter primarily addresses three questions:

1. How does stress affect the contribution of experience to performance?
2. Are certain types of experience more strongly affected by stress than others?
3. Does experience ameliorate the effects of stress?

Some General Comments About Definition and Measurement of Stress

Stress is an ubiquitous phenomenon in organizational life. And not surprisingly, research on organizational stress is voluminous (e.g., Beehr, 1985; Buck, 1972; McGrath, 1976), although there is no agreement on its definition. It is also complex. Lazarus (1966) speaks of the stress experience as consisting of two phases. The first is an appraisal of the situation, the second an attempt to cope with the reaction to this situation. The stress experience is, therefore, a subjective, perceptual response as well as an emotional reaction. The leader's rating of job or interpersonal stress is, therefore, a function of the individual's predisposition, i.e., "trait-anxiety," and possible vulnerability to certain types of stress. (Appley & Trumbull, 1967). In some contexts, stress denotes the stimulus that evokes the reaction; in others, it denotes the individual's reaction to the stimulus (also called "strain"). We are here mainly concerned with the latter, namely the leader's perception of stress.

As defined by McGrath (1976), stress occurs when an individual perceives his or her resources to be unequal to the demands of the environment in coping with an important problem whose outcome is

uncertain. Under conditions of high perceived stress, the individual tends to feel uncertain about the future, or enmeshed in a threatening environment that is out of control and, therefore, anxiety arousing.

Most people behave quite differently in situations they can control and predict than in those they cannot (e.g., Fiedler & Garcia, 1987; Larson & Rowland, 1973; Sample & Wilson, 1965). If the environment is unpredictable and threatening, decisions become risky and potentially dangerous. Some people find these conditions exhilarating, while others find them anxiety arousing and nearly unbearable. Uncertainty and unpredictability turn out to be particularly important aspects of leadership situations which are, by their nature, inherently ambiguous and risky, and where there are no iron-clad rules of behavior or proven methods that assure success.

How much of the reported stress is due to the individual's predisposition to be anxious and how much to the threatening nature of the environment differs from situation to situation and from person to person. A study of ROTC cadets (Meuwese & Fiedler, 1965, reanalyzed by E. H. Potter, III in Potter & Fiedler, 1981) showed, for example, that the only subjects who were strongly affected by experimentally manipulated stress were those whose anxiety level was high even before the experiment was begun (Table 3-1). This is also borne out in several other of our later studies (e.g., Gibson, Fiedler, & Barrett, 1990). This finding makes it difficult to conduct studies in which stress is experimentally manipulated since only those who are predisposed to a stressful situation are likely to respond to it. On the other hand, some situations are so stressful that it affects nearly everyone; going into combat or fighting a dangerous fire are two examples.

Table 3-1. Mean Perceived Stress for Subjects With High and Low Test Anxiety Under Experimentally Induced Conditions of High and Low Stress (N's=9) (Source: Meuwese & Fiedler, 1965)

		Test Anxiety	
		High	Low
Stress	High	4.88	2.50
	Low	2.45	2.56

However, as a rule, stress of this magnitude cannot be induced in the laboratory.

Relative Importance of Boss vs. Job Stress

Most stress-related leadership research in organizations has focused on the way in which performance is affected by job stress, generated for example, by time pressure, task complexity, role ambiguity, or noxious working conditions (e.g., Schuler, 1980; Beehr, 1985). The basic finding is that high job stress is associated with low job satisfaction, poor performance, absenteeism, attrition, and psychosomatic illness (Barnes, Potter, & Fiedler, 1983; Borden, 1980; Chemers, Hayes, Rhodewalt, & Wysocki, 1985). However, mild job stress of the type more typically found in organizations may focus the individual's attention on the task and therefore increase performance, especially if the work involves routine or overlearned functions.

Interpersonal stress is generated by personality clashes and conflict with key subordinates and superiors (subordinate stress, boss stress). The latter is particularly important since the boss's evaluation so strongly affects the subordinate's career as well as feelings of self-esteem and self-efficacy. One "less-than-outstanding" evaluation by an immediate superior in the military services and in many other large organizations can derail a manager's career. Concern about one's evaluation by a threatening or ill-disposed boss, therefore, creates a great deal of anxiety (Borden, 1980) and evaluation apprehension (Sarason, 1984). These, in turn, distract the individual's attention from the task.

Correlations between various types of stress, e.g., job stress, boss stress, and stress with subordinates, tend to be positive but low. This is easy to understand when we consider that a leader might have stress with the boss but good relations with subordinates, or a stressful job but a supportive boss. There is also an unexpectedly low, albeit positive relationship between the leader's perception of boss stress and the boss' rating of the subordinate leader's performance. Apparently, most bosses are not aware of how their subordinates see them (e.g., Gochman & Fiedler, 1975; Mitchell, 1968). Most bosses find it hard to believe that they are not seen as warm, patient, and ever ready to

listen to their employees' criticisms.³⁻¹ For this reason, the correlations between the subordinate's rating of boss stress and the boss's rating of the subordinate's performance usually do not account for more than 3 to 5 percent of the variance. This finding means that stress can legitimately serve as a moderator of the relationships between cognitive resource variables and performance. In our own studies, boss stress has emerged as a more powerful moderator of the relationship between intelligence and performance than job stress (e.g., Barnes, Potter, & Fiedler, 1983; Fiedler, Potter, Zais, & Knowlton, 1979; Potter & Fiedler, 1981). However, boss stress and job stress have a similar effect on the relationship between experience and performance.³⁻²

The impact of stress on cognitive resources seems to derive from an inability to cope emotionally with the situation rather than a lack of cognitive ability to deal with the problem. This hypothesis is consistent with Potter and Fiedler's (1981) and Zais's (1979) findings related to the strong moderating effects of "double-bind stress." This type of stress is caused by a boss who simultaneously exerts pressure for more and more performance while withholding needed advice, resources, or support, a difficult situation to cope with on the basis of intellectual effort.

Stress as a Moderator of Experience

Let us now consider the chapter's first question, how stress affects the contribution of experience to performance. Our research shows

³⁻¹ This important point is illustrated by several studies. For example, a study by Mitchell (1968) asked leaders to describe their own behavior on the structuring and consideration scales, and group members and observers to describe the considerate and structuring behaviors of the leader on these scales. Mitchell found practically no agreement between leader and members, or leader and observers, on how the leader had behaved.

³⁻² Boss stress has been measured in some of our studies (e.g., Borden, 1980) by a single-item scale. It is interesting to note that, at least in the low-stress condition, the single-item scale moderated the relations between intelligence and performance more strongly in all six job categories than did a 30-item boss stress or 44-item job stress scale. These results suggest that under some conditions, the single-item scale reflects a global, emotional reaction to the superior rather than an analytical, intellectual set induced by a detailed multi-item scale. This and similar findings support recent work by Wilson and his co-workers (e.g., Wilson, Dunn, Kraft, & Lyle, 1989a) which shows that asking people to explain the reasons for their attitudes and judgments changes these attitudes and lowers attitude-behavior consistency (Wilson, Kraft, & Dunn, 1989b).

that experience is most useful when the individual is under stress. The close relationship between stress and experience is not difficult to find. For example, in a study of managerial experience, Lindsey, Holmes, and McCall (1987) asked executives to identify key events that favorably affected their careers. Prominent among these events were those dealing with internal politics, handling conflicts, and times when stress tends to be high. The latter includes start-up periods and situations in which the managers had to overcome hardships (Lindsey et al., 1987; McCall et al., 1988).

Experience is usually considered essential for leaders of military combat, police, fire, and emergency medical units, and for airline pilots, ship captains, etc., all of whom must be prepared to work under stress. We also see the important relationship between experience and stress when we ask participants in management workshops to recall an event in their life in which they “really learned from experience.” When we then further ask our subjects to describe this event, practically all respondents report that it had been quite stressful. Stress is thus likely to play an important part in gaining or using experience.

As already mentioned, we can often cope with a mild stress generated by a difficult and complex problem by focusing on the task and marshalling the available intellectual resources. Having to deal with a critical, hostile, or threatening boss is an emotionally draining experience with which we cannot cope intellectually. The stressed subordinate is likely to be preoccupied by the threatening relationship with the boss, and to focus attention on the relationship rather than on the task. The individual will, therefore, rely on past experience and perform the task in a relatively unthinking and automatic manner. Falling back on past experience is a common reaction to stress and uncertainty. This is suggested by such frequently heard defensive statements as, “We’ve always done it like that,” or, “It’s company policy.”

The leader’s intellectual abilities play a quite different role. While intellectual effort is a pro-active mode of problem coping, acting on the basis of experience under stressful conditions is essentially reactive and rests on an automatic mode of dealing with the stress-producing situation. As we shall discuss later, attempting to solve a problem logically is incompatible with reacting simultaneously in an

automatic manner. Therefore, as our studies show, leaders use their intelligence but not their experience under relatively non-stressful conditions, and their experience but not their intelligence under stressful conditions. Several studies support this point.

Empirical Findings

Military leaders from various units (Fiedler, Potter, Zais, & Knowlton, 1979). One series of investigations dealt with Army squad leaders, Army company commanders and battalion staff officers, as well as personnel from a Coast Guard headquarters (Fiedler, Potter, Zais, & Knowlton, 1979). In each of the samples we obtained measures of interpersonal stress. Leader experience was correlated with available performance ratings.

In one study, 44 Army company commanders and 40 Army battalion staff officers (Zais, 1979) listed their experience and completed a stress scale and various questionnaires. Performance was evaluated on the Bons scale described earlier (Bons & Fiedler, 1976), and these leaders were divided into those who reported low or high stress with their boss. In the Bons and Fiedler (1976) study, the squad leader sample was trichotomized (correlations are shown only for those with low and with high stress scores). As Table 3-2 shows, experience and performance correlated positively only when the leader reported high stress. The correlations were essentially zero, with one notable high negative correlation, when the leader reported low stress.

Combat infantry leaders. Borden (1980) tested 360 officers and noncommissioned officers (NCOs) in various leadership positions or job categories of a combat infantry division. He obtained data on time in service (TIS) and intelligence scores (Wonderlic, 1977). Of particular relevance are data from troop leaders at three levels, i.e., company commanders, platoon leaders, and platoon sergeants. Performance evaluations were obtained from two to five superiors, using the Bons scale. An 11-point stress scale asked to what extent the relationship with the boss or the job itself was "very stressful" or "not stressful at all." The leaders were divided at the median of the job-stress and boss-stress scales within each of the job categories, and TIS was then correlated with performance for leaders who fell below the median and

Table 3-2. Correlations Between Experience Measures and Performance Under Conditions of Boss Stress

	Boss Stress	
	Low	High
Army company cdrs.	-0.86** (08)	-0.05 (07) ^a
First sergeants	0.00 (13)	0.51 (08) ^b
Squad leaders	0.12 (36)	0.57** (27) ^a

** $p < .01$

^a Samples above or below ± 1 SD from mean of stress scale.

^b Correlations between First Sergeant experience and Battalion Commander's ratings of Company Commander's performance.

Numbers in parentheses indicate number of cases in subsample.

those above the median of the stress scores in their job category (Table 3-3). Eight of 10 correlations between experience and performance were stronger under high than low stress. In four of five pairs, the correlation was stronger in the high boss stress condition than the high job stress condition.

Coast Guard personnel. Does stress effect the utilization of experience more strongly in some tasks than in others? This question could be asked in a study of 130 Coast Guard officers and petty officers who performed in a variety of functions in a large headquarters organization (Potter & Fiedler, 1981). Each of the officers and petty officers was asked to indicate the amount of time and effort he or she devoted to various staff functions which had been previously identified. It was possible, therefore, to group these subjects on the basis of the functions they performed. These officers and petty officers also took various tests and questionnaires including the Wonderlic Personnel Test (1977) and reported their time in service as well as a scale which measured the boss and job stress under which they operated. Performance was evaluated by the immediate supervisor, using the Bons scale (Bons & Fiedler, 1976) described earlier.

Table 3-3. Correlations Between Experience (TIS) and Performance With Samples Split at Median of Job Stress and Stress With Boss Stress Scale (Source: Borden, 1980)

Sample	Stress with Boss		Job Stress	
	Low	High	Low	High
Company commanders	0.39 (17)	0.37 (17)	0.31 (20)	0.31 (19)
Platoon leaders	-0.31* (55)	0.51** (40)	-0.07 (51)	-0.21 (50)
Executive officers	0.01 (17)	0.50 (11)	-0.06 (15)	0.32 (14)
First sergeants	0.16 (22)	0.23 (19)	0.08 (21)	0.36 (20)
Platoon sergeants	-0.22 (52)	0.32* (50)	-0.10 (74)	0.07 (76)

Weighted average correlations in column labeled "low stress with boss" differ significantly ($p < .01$) from those in column labeled "high stress with boss."

* $p < .05$; ** $p < .01$. Size of sample indicated in parentheses.

As in the infantry division study, the boss-stress measure moderated the correlations between experience and performance more strongly than did the job-stress scale. Also, as in the infantry division study, the correlations between experience and performance were stronger under high than low stress, and in six of seven pairs, the correlation was stronger in the high boss-stress than the high job-stress condition (Table 3-4). Interestingly enough, however, the effect of boss stress on the use of experience was almost completely uniform regardless of job function. The correlations between experience and performance on specific job functions ranged from 0.41 to 0.45, with four of the six correlations reaching the 0.05 level of significance. In contrast, the correlations between experience and performance under high job stress ranged from 0.01 to 0.44, with only two correlations reaching significance.

Table 3-4. Correlations Between Experience and Performance in Decision and Supervisory Functions of Coast Guard Personnel With High and Low Boss and Job Stress (Source: Potter & Fiedler, 1981)

	Boss Stress		Job Stress	
	Low	High	Low	High
Entire sample	0.03 (53)	0.44** (48) ^a	-0.04 (45)	0.07 (60)
Decision making				
Making decisions	0.01 (23)	0.47# (14)	0.00 (32)	0.31 (16)
Policy advising	-0.06 (30)	0.43* (22)	-0.06 (30)	0.44* (29) ^a
Communicating & executing orders				
Supervising	-0.06 (31)	0.41# (19)	0.12 (23)	0.13 (21)
Training	-0.09 (31)	0.42* (23) ^a	-0.26 (24)	0.38* (30) ^a
Public representation	-0.09 (27)	0.55* (18)	0.12 (24)	0.13 (21)
Administration				
Paperwork	-0.28 (27)	0.44* (22) ^b	-0.06 (27)	0.01 (22)

$p < .10$; * $p < .05$. Size of sample indicated in parentheses.

Difference between correlations: ^a $p < .05$; ^b $p < .01$.

Fire service officers. We would expect experience to play an especially important role in such emergency-response organizations as fire department companies. But many of these organizations also have a great deal of stand-by time. Thus, the level of stress is notoriously high during fire combat while administration and non-fire fighting duties are seen by many officers as boring and unexciting. Those contrasting working conditions allow us to compare the effects of stress on the contribution of the leader's experience in the performance of the very stressful and the relatively unstressful components of the fire department officers' job.

Frost (1980) collected data on two occasions about one year apart on lieutenants and captains, each of whom headed a company of three to six fire fighters. Experience measures included time in service, time in rank, and time in the unit. The officers also rated the degree to which the job and the relationship with the officers' immediate

superior seemed stressful. During the second data collection, battalion chiefs evaluated their subordinate officers separately on performance at the scene of the fire (fire combat) and on the performance of their administrative and other non-fire fighting duties. The data were standardized and then analyzed by dividing the sample of captains and of lieutenants at the median of the boss-stress and job-stress scales. Time in the fire department as an officer, and in the present unit were then correlated with overall performance. Table 3-5 shows the correlation between each of the three experience measures and performance at the scene of the fire and in administrative duties.

Two major findings stand out. First, under conditions of reported low stress, all correlations between experience and performance were negative. Second, the highest negative correlations occurred in the *least* stressful condition: (a) performance of the intrinsically less stressful job functions and (b) the officers rating of the situation as relatively non-stressful. The correlations between experience and performance were positive only in the most stressful situation: (a) they pertained to performance at the scene of the fire, and (b) in addition, the officer also rated the situation as relatively stressful. In other

Table 3-5. Correlations Between Various Types of Fire Department Experience and Performance in Fire Combat and Administrative Duties for Fire Captains With High and Low Perceived Boss and Job Stress

	Boss Stress		Job Stress	
	Low (22)	High (23)	Low (25)	High (20)
Fire combat				
Time in service	-0.24	0.23	-0.34#	0.41# ^b
Time as officer	-0.23	0.25	-0.40*	0.68** ^b
Time in current unit	-0.41#	0.11 ^a	-0.31	0.14
Administration				
Time in service	-0.31	-0.19	-0.41*	-0.06
Time as officer	-0.40#	-0.24	-0.58**	0.10 ^b
Time in unit	-0.66**	-0.19 ^a	-0.56**	-0.19 ^b

$p < .10$; * $p < .05$; ** $p < .01$. Size of sample indicated in parentheses.

Difference between correlations: ^a $p < .05$; ^b $p < .01$.

words, the less stressful the situation, the more negative the correlations between experience and performance. The more stressful the situation, the more strongly positive were the correlations between experience and performance.

Stress caused by physical danger. The study also allowed us to obtain an objective measure of job stress, namely time in fire combat. We could ask, therefore, how this type of stress affected the contribution of experience to fire fighting performance. Actual fire combat, and its concomitant danger, is relatively frequent in downtown and industrial districts. However, in suburban districts, fighting the occasional garbage or kitchen fire may average no more than a few hours per year. The main tasks in suburban areas are maintenance and fire prevention work, e.g., giving talks in schools and checking for fire code violations.

We compared the rated performance of relatively experienced and inexperienced fire captains from fire companies with high and low average number of hours in fire combat. Figure 3-1 shows a significant interaction, indicating that the more experienced captains were rated as more effective than inexperienced captains in companies which were frequently engaged in fire combat. The experienced captains performed much more poorly than inexperienced captains in companies which engaged in little fire combat and thus faced relatively little physical danger.

The interesting question is, of course, why the more experienced captains performed less well under low stress than did relatively inexperienced captains. The battalion chiefs, who rated their performance, suggested that the old-timers were simply bored and unchallenged by the assignments which were non-stressful, and that they tended to cut corners, pay little attention to drills and training, and were "too laid back." This explanation is plausible but does not seem to account adequately for the large negative correlations. Another explanation for these findings will be offered in Chapter 5.

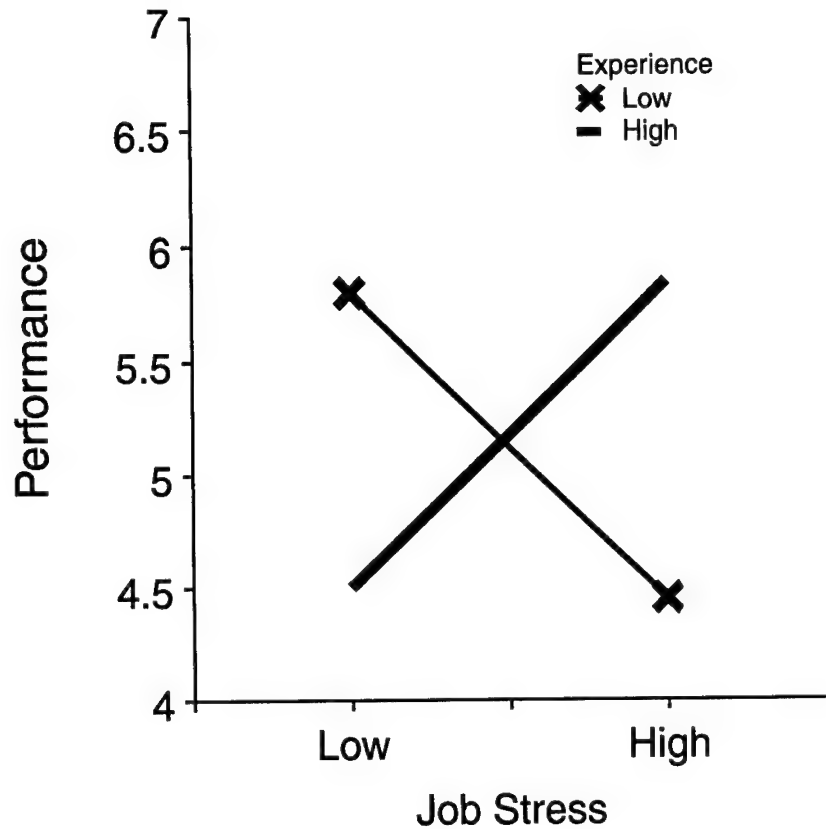


Figure 3-1. Mean performance of experienced and relatively less experienced fire department captains in companies with low and high exposure to physical danger (hours at scene of fire).

Increasing Stress to Improve the Use of Leader Experience

The studies already described in this chapter have shown that experience is more effectively utilized when the leader reports stress. How, then, do we affect the leader's use of previous experience by deliberately introducing stress? This important hypothesis was tested in a laboratory experiment on three-person teams composed of college students who had been recruited from a Psychology Department subject pool (Murphy, 1992; Macaulay, 1992).

The teams were told to assume that their aircraft had crash-landed in a hostile environment (a desert in summer or a mountain top in

winter) and that only 15 potentially useful items of equipment had been salvaged from the wreckage. The task, based on the so-called NASA problems (Lafferty & Pond, 1974), required the teams to rank the 15 salvaged items in order of their value for helping the team members to survive.

The data relevant to the present discussion come from a subsample of 18 teams that were not exposed to any other experimental treatments (low stress), and 18 teams in which the leader worked under mild stress. Specifically, the leaders in the "moderate-stress" condition were told that their behavior would be video-taped, monitored, and later evaluated by a nationally known expert in leadership. A post-experiment manipulation check showed that stress scores were slightly but significantly higher in the induced-stress condition than in the condition in which stress was kept at a minimum.

Performance was defined as the degree to which the team's ranking of the 15 equipment items agreed with the ranking of the same items by a panel of experts. The measure of leadership experience was based on the leader's report of the time previously spent in various leadership and management positions (e.g., in high school clubs, athletic teams, committees, supervisory jobs).

The data supported Cognitive Resource Theory. The correlation between leader experience and performance was $-.25$ ($N=18$) in the low stress condition and $.36$ ($N=18$) in the moderate stress condition (difference between correlations significant). Figure 3-2 shows the average performance of groups with relatively experienced and inexperienced team leaders. Thus, although stress on the average lowered task performance, experience assisted the leader to compensate for the negative effect of stress. In contrast, low stress decreased the effective use of experience (interaction significant). The Murphy and Macaulay study thus not only supports the Cognitive Resource Theory prediction, but also supports the popularly held belief that stressful conditions require experienced leaders.

This study also has interesting implications for leadership selection. Many organizations place considerable weight on previous leadership experience in high-school activities and pre-college jobs. These

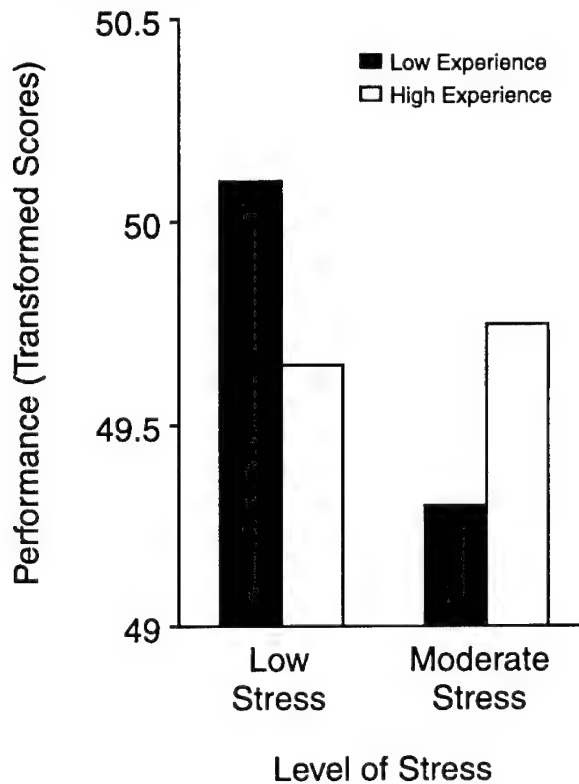


Figure 3-2. Contribution of leadership experience to performance under low and moderate stress. (Source: Murphy & Macaulay, 1992)

early leadership experiences are frequently seen as important prognosticators of later leadership performance, and especially so by military schools and academic institutions. The Murphy and Macaulay study shows that previous leadership experiences are of benefit only when the leader operates under at least some stress.

Does Experience Reduce Stress?

The third question of this chapter was whether experience buffers the stress that would normally be expected in various situations. The evidence is mixed. Everyday observation suggests that experienced leaders tend to be more self-confident, less anxious, and less easily stressed than those who are relatively inexperienced. There is no question that seniority generally reduces the possibility of getting

fired. And even if they have a stressful relationship with their boss, most senior members of an organization are apt to have "friends in high places" who will protect them. Overall, however, the amount of stress which experienced and inexperienced leaders reported did not differ greatly in our studies. This suggests that the experienced leaders may be aware of the stress on an intellectual basis, but do not react to stress emotionally in the same way as those with less experience.

The hypothesis that experience buffers the effect of stress is suggested by a study of Coast Guard personnel (Potter & Fiedler, 1981). The test rests on the argument that boss stress moderates the relationship between intelligence and performance. This has been experimentally demonstrated by Link (1992), and Jacobs (1992), and it was the case in the Coast Guard study (Potter & Fiedler, 1981). We predicted that the correlation between intelligence and performance will be strongly moderated under low stress when the sample consists of relatively inexperienced leaders. The moderating effect of stress will be minor when the sample consists of experienced leaders.

To test this hypothesis, we correlated intelligence with performance of Coast Guard personnel with service of less than 10 years, from 10 to 20 years, and with more than 20 years. As Table 3-6 shows, stress strongly moderated the correlations between intelligence and performance only for those with less than 10 years of service. Stress had little effect on those with more than 10 years of experience.

The hypothesis that experience buffers the effect of stress was also supported in a study of Coast Guard cadets. The cadets in the senior cadet class expressed as much stress, but considerably less concern about the stress, than did cadets in their first or second year at the academy, suggesting that the senior cadets had found effective ways of coping with stress. Thus, Potter and Albrecht (1990) showed that self-doubt, concern for approval, and misdirection of effort decreased significantly from the freshman year to the senior year in the Coast Guard academy:

Self-doubt:	from 25.12 to 10.93;
Concern for approval:	from 22.93 to 18.28;
Misdirected self-effort:	from 8.89 to 4.33.

Table 3-6. Correlations Between Intelligence and Performance of Coast Guard Staff With Low, Moderate, and High Time in Service (Source: Potter & Fiedler, 1981)

	Years of Experience		
	< 10	10 – 20	> 20
Low boss stress	0.73** (13)	–0.23 (32)	0.24 (16)
High boss stress	–0.43# (16)	0.28 (14)	0.24 (14)

** $p < .01$; * $p < .05$; # $p < .10$. Size of sample indicated in parentheses.

Difference between correlations .73 and –.43, –.23: $p < .01$.

Difference between correlations –.43 and .28, .24: $p < .05$.

A note of caution is required. The hypothesis that experience buffers the effects of stress was not supported in Borden's (1980) studies which allowed us to compare leaders with relatively short and long time in service. Among the former were platoon leaders who had very little time in service. Among the latter were First Sergeants with an average of about 15 years of service and company commanders with eight or more years of service. The moderating effect on the relationship between intelligence and performance was as strong for First Sergeants with many years of service as for platoon leaders with very few years of service. In view of these conflicting findings, it seems likely that factors other than extensive time in service play a role in ameliorating the effects of stress. Stress obviously is a very powerful moderator of the relationship between experience and performance. However, it is particularly interesting that low stress, especially in highly stressful jobs, results in negative correlations between experience and performance. We shall consider this point further in Chapter 5.

Chapter 4

The Effect of Personality on Experience: Abilities and Needs

Such personality attributes as intelligence, motivation, and directive behavior must necessarily affect the acquisition and utilization of experience. Unfortunately it is difficult to differentiate clearly between effects attributable to personality and to the environment. For instance, is the group climate good because the team has a charismatic leader or because its members are highly motivated? Does a leader report stress because of a threatening boss or because of his or her own tendency to feel threatened? To address these questions is, however, beyond the scope of this chapter. This chapter asks how variables attributable to personality affect the way in which leaders use their experience.

Intellectual abilities and the use of experience. Among the personality attributes that immediately come to mind in this connection is the leader's intellectual ability. We generally assume that bright people learn from their experience while those who are not very bright keep on making the same mistakes. If this is the case, we would expect that the more intelligent leaders will benefit more from experience than less intelligent leaders. As a result, the correlations between experience and performance should also be higher for the more intelligent than less intelligent leaders.

The data shown in Table 1-3 of the first chapter do not support this conclusion. Correlations between experience and performance for leaders with high mean intelligence scores did not differ from those with relatively lower scores. For example, the correlations between experience and performance obtained for heads of university departments and leaders of chemical research teams were, respectively, .15 and .10, and for community college presidents from .02 to -.46. The corresponding correlations for samples with lower mean intelligence (Army squad leaders, platoon sergeants, managers of grocery, and meat departments) were .18, .01, and .15. A further test compared the utilization of experience by military leaders within the same job category

who had relatively high and low intelligence. (Table 4-1). Three of the five correlations were somewhat higher for the more intelligent than the less intelligent leaders, but the differences were small and not significant.

Bettin (1983) conducted a study of Army company commanders and battalion staff officers using Horn's (1968) scales of crystallized and fluid intelligence (Table 4-2). Crystallized intelligence indicates ability to acquire information and concepts from such sources as school, training, or the culture. Fluid intelligence indicates the ability to use this knowledge to solve new problems. Analyses of these data show that neither the leaders with higher fluid nor crystallized intelligence derived substantially more benefit from TIS or from job-relevant experience than did those with lower intelligence scores. In fact, the correlations obtained for more intelligent leaders were slightly lower than those obtained for less intelligent leaders. Experience does benefit performance on individual tasks rather than leadership performance. This is seen when we compare the corresponding correlations for troop leaders with those of staff officers who primarily have technical functions. The more intelligent as well as the less intelligent staff officers gained from experience while troop commanders

Table 4-1. Correlations Between Experience and Performance for Military Leaders With Lower and Higher Levels of Intelligence

Sample Source	Intelligence of Leader			
	High IQ	N	Low IQ	N
Company commanders (Borden, 1980)	0.38#	20	0.38	18
Platoon leaders (Borden, 1980)	0.08	43	-0.15	48
Platoon sergeants (Borden, 1980)	0.22#	58	-0.02	57
Mess stewards (Csoka, 1974; Blades, 1976)	0.16	26	-0.38#	22
Army squad leaders (Bons & Fiedler, 1976)	0.15	65	0.17	64

$p < .10$

Difference between correlations significant at $p < .05$.

Table 4-2. Correlations Between Time in Service or Job-Relevant Experience and Performance of Line and Staff Officers With Relatively High and Low Crystallized and Fluid Intelligence (Source: Bettin, 1983)

	Intelligence of Subjects			
	High		Low	
	r	N	r	N
Company commander's TIS				
Crystallized	0.10	15	0.20	24
Fluid	-0.12	16	0.16	23
Company commander's relevant experience				
Crystallized	0.15	15	0.31	22
Fluid	0.10	15	0.23	23
Staff officers' TIS				
Crystallized	0.58*	12	0.37#	22
Fluid	0.57*	16	0.30	18
Relevant experience				
Crystallized	0.35	15	0.39#	24
Fluid	0.34	16	0.44#	18

* $p < .05$; # $p < .10$

did not. This finding supports a point made earlier, that leadership experience differs from job-specific experience.

Directive behavior and the effective use of experience. Previous studies (Blades & Fiedler, 1976; Fiedler & Garcia, 1987; Fiedler, Potter, Zais, & Knowlton, 1979; Potter & Fiedler, 1981) investigated the conditions under which intellectual abilities are effectively utilized.⁴⁻¹ Blades (1976) showed that the leader's ideas and plans for performing a task strongly influence the group's behavior if the leader (a) communicates these ideas and plans to the group members, and (b) the group

⁴⁻¹ Although there is a tendency on the part of leaders to be consistently more directive or more nondirective in their relations with subordinates, it is perhaps questionable whether directiveness can be considered a personality trait in the proper sense of the word. However, whether or not directiveness is a "real" personality attribute is not critical in the present discussion.

members either are supportive and/or motivated to comply with the leader's directions. Blades further pointed out that the leader's plans and action strategies are typically communicated in the form of directions and instructions (e.g., "Today I want you to...") Thus, in order for the leader's intelligence or task ability to contribute to group performance, the leader has to be directive. In Blades' mess hall study (1976), group members described their mess steward on the item, "The leader decides what shall be done and how it shall be done."

It seems reasonable to hypothesize, therefore, that directive behavior and group support should also be important in the effective utilization of what the leader has learned from experience. This hypothesis was tested by correlating experience and performance of leaders who were rated as relatively high, moderate, and low in directiveness. The analysis was conducted on a sample of Army squad leaders (Bons & Fiedler, 1976) whose performance had been evaluated by their immediate superiors, their platoon leaders, and platoon sergeants. Squad leaders typically direct the work of 10 riflemen. The squad leaders, in this particular case, ranged from non-commissioned officers (NCOs) with more than 10 years' time in the Army to relatively new soldiers who had been chosen to fill the squad leader position on a temporary basis. Data are also shown for Army platoon sergeants and platoon leaders.

Each of the samples was divided into thirds on directiveness. Experience (TIS) was then correlated with performance for groups with relatively directive, moderately directive, and nondirective leaders (Table 4-3). The results on this table show quite clearly that directive behavior (giving instructions and directions to group members) did not by itself contribute materially to the utilization of experience.

On the other hand, in a study of high school basketball teams (Fiedler, McGuire, & Richardson, 1989), experience did contribute to performance when leaders were directive. These teams, in contrast to those shown on Table 4-3, had informal leaders with very little legitimate position power. The correlations between total basketball playing experience, including experience prior to high school, and performance (win/loss record in league games) was .47 ($n=15$, $p < .10$) for relatively directive leaders, and -0.17 ($n=14$) for nondirective leaders.

Table 4-3. Correlations Between Experience and Performance for Leaders With Different Levels of Directiveness

Correlations between task performance and:	Level of Directiveness		
	High	Moderate	Low
Mess stewards (Blades, 1976)			
Job experience	0.24 (13)	0.22 (25)	-0.17 (13)
Squad leaders (Bons & Fiedler, 1976)			
Time in service	0.00 (96)	0.06 (83)	-0.05 (110)

The correlations between high school playing experience and performance for directive leaders was .35 ($n=15$), and -0.58 ($n=14$, $p < .05$) for nondirective leaders (difference between r 's significant). Thus, when the leader was nondirective, experience seemingly detracted from team performance. Whether the difference between basketball teams and military units is due to the informal leadership of basketball teams or to some other fundamental differences between the two types of groups is not clear at this time.

The effect of group support. Blades also postulated that group members must be motivated to listen and to comply with leader instructions. The leaders in our samples, i.e., mess stewards and Army squad leaders, were, therefore, further subdivided on group support measured with the 10-item group atmosphere (GA) scale described in Chapter 2. The usual method of analysis called for dividing the group leaders into those falling above or below the median in directiveness, and then above or below the median in group support (Table 4-4). In only 7 of 10 cases in which leaders had high group support, and in 6 of 10 cases in which they had low group support were the correlations between experience higher for directive than non-directive leaders. These results do not even constitute a trend.

Conscious Control Over Skills and Knowledge-Gained Experience

As mentioned earlier, Blades and Fiedler's (1976) study of Army mess stewards had shown that leaders who were directive as well as supported by their group members were able to utilize their intellectual

Table 4-4. Correlations Between Experience Measures and Rated Performance Under Various Conditions of Leader Directiveness and Group Support

	Group Support (Group Atmosphere)							
	High Leader Directiveness				Low Leader Directiveness			
	High	N	Low	N	High	N	Low	N
Mess stewards								
Time in service	0.18	13	0.36#	23	-0.43	11	-0.31	11
Experience	0.44	13	0.26	23	0.08	11	-0.37	11
Platoon leaders								
Leader experience	0.14	29	-0.01	14	-0.14	14	0.48*	25
Time/service	0.28	29	-0.72**	14 ^b	0.49#	14	-0.16	25 ^a
Time/position	0.15	29	0.28	14	0.03	14	-0.22	25
Platoon sergeants								
Leader experience	0.49#	13	0.48	08	0.45	06	-0.09	17
Time/service	-0.04	15	-0.04	08	0.41	06	-0.22	18
Time/position	0.41	15	-0.48	08 ^a	0.13	06	0.04	18
Intelligence	0.39	11	0.14	07	-0.19	06	-0.06	17

$p < .10$; * $p < .05$; ** $p < .01$ ^a Difference between correlations significant at $p < .05$.^b Difference between correlations significant at $p < .01$.

abilities but not their experience. Thus, the fruits of the leader's intellectual effort, but not of experience, were communicated to subordinates in the form of plans, action strategies, and decisions. Similar results were reported in subsequent studies (see Fiedler & Garcia, 1987). Nor does a higher level of motivation increase the effective use of leader experience (Table 4-5).

These findings suggest that the skills and knowledge gained by leadership experience may not be readily available to the leader, or under his or her conscious control. Rather, it appears that whatever is learned from experience, is automatically evoked or triggered by such situational factors as stress. This tentative conclusion is supported by a

Table 4-5. Effect of Leader Motivation on Use of Experience in Various Samples

	Motivation	
	High 1/3	Low 1/3
Platoon leaders (Bons & Fiedler, 1976)		
Time in service	0.13 (43)	-0.13 (48)
Infantry division leaders (Borden, 1980)		
Company commanders	0.19 (19)	0.32 (19)
Platoon leaders	0.08 (47)	0.13 (47)
Platoon sergeants	0.11 (57)	0.03 (52)
Company commanders (Bettin, 1983)		
Time in service	0.25 (24)	0.17 (15)
Relevant experience	0.28 (24)	0.01 (15)

Size of sample indicated in parentheses.

study conducted by Fiedler, Jobs, and Borden (1984), which compared the contribution of motivation to the multiple regression between intelligence and performance, and between experience and performance. These analyses showed that motivation increased the use of intelligence in determining the performance of all unit decision-makers, i.e. Army company commanders, executive officers, and platoon leaders. Motivation only increased the correlation between the executive officers' experience and performance.

Summary

While not conclusive, the results suggest that leaders have very little voluntary control over the skills and knowledge gained by experience. Neither directiveness, nor motivation, nor intellectual ability substantially increase the effective use of leadership experience.

Chapter 5

On Being Smarter and Wiser Than Is Good for You

Our findings show that experience contributes to performance when the situation is stressful, but why should experience be *detrimental* to performance when stress is low (e.g., Fiedler, Potter, Zais, & Knowlton, 1979; Borden, 1980; Potter & Fiedler, 1981; Frost, 1983)? These puzzling findings call for explanation. They have been quite consistent, and are illustrated here in several studies.

Combat infantry leaders. The Borden (1980) study provided data on 331 troop commanders, i.e., company commanders, platoon leaders, and platoon sergeants, of a combat infantry division. For purposes of this analysis, intelligence scores (Wonderlic, 1977), experience (TIS), and boss stress ratings, as well as performance evaluations by superiors were standardized within each of the three above-named job categories, and then combined. Figure 5-1 shows the mean performance ratings for leaders who had rated stress with their boss as low, moderate or high, and whose intelligence scores fell into the low, moderate, or high third of the distribution within their job category.

As also reported in studies by others (e.g., Beehr, 1985; McGrath, 1976), mean performance for the entire group of leaders who reported stress was generally lower than for the group in which leaders reported comparatively little stress (-0.25 , $n=108$, $p < .01$). The Borden study also showed, however, that more intelligent leaders performed better under low stress, but less well under high stress than did the less intelligent leaders (Figure 5-1). In contrast, experienced leaders performed better under relatively high stress, but less well under low stress than did comparatively inexperienced leaders (Figure 5-2; all interactions significant). Under low stress, therefore, the leaders used their intelligence but misused their experience; under high stress they used their experience but misused their intelligence. Similar results have been obtained in other studies (e.g., Fiedler, Potter, Zais, & Knowlton, 1979; Frost, 1980; Potter & Fiedler, 1981).

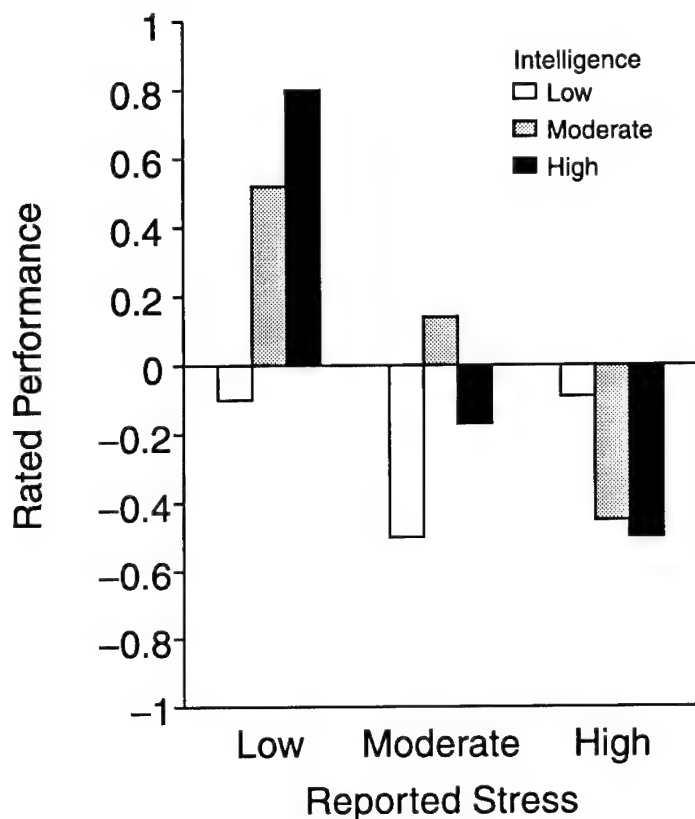


Figure 5-1. Rated performance as a function of intelligence and reported stress (company commanders, platoon leaders, and platoon sergeants). (Source: Borden, 1980)

The fire department study. The pattern seen in the study of combat infantry leaders emerged even more strongly in data obtained in a study of fire companies, although the sample was small. As will be recalled from Chapter 3, Frost (1980) collected data on fire department officers, each of whom headed a company of three to five men. He originally administered the Wonderlic intelligence scale, experience measures indicating time in service, in rank, and in the unit, and the degree to which the job and the relationship with the officers' immediate superior seemed stressful.

Fire combat is one of the most hazardous civilian occupations, and it attracts people who like and accept stress. The job is especially

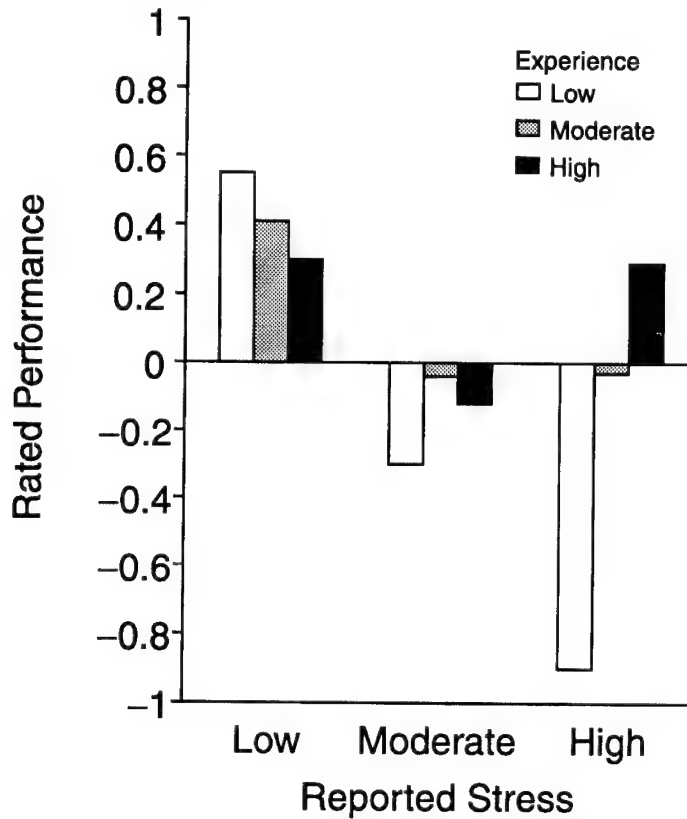


Figure 5-2. Rated performance as a function of experience and reported stress (company commanders, platoon leaders, and platoon sergeants). (Source: Borden, 1980)

stressful for the senior officer at the scene of the fire who is in charge. He bears the major responsibility not only for the fire combat operation but also for the safety of fire fighters, victims, and bystanders. Although a battalion chief is normally in command at large fires, these responsibilities frequently fall on the fire captain. We are, therefore, dealing here with leadership situations which are, by all accounts, among the most stressful outside of military combat.

The analyses that follow are based on fire captains who constitute a fairly homogeneous group in terms of their previous leadership experience and responsibilities. The data were analyzed by dividing the sample of captains at the median of the boss stress scales. The

experience measures (time in the fire department, as an officer, and in the present unit), as well as the Wonderlic intelligence score, were then correlated with superiors' ratings of the captains' overall performance (Table 5-1).

For fire captains who reported low stress, the correlations between experience and performance were strongly negative while those between intelligence and performance were positive. For fire captains who reported high stress, the correlations between experience and performance were positive and those between intelligence and performance were negative. This study thus replicates the combat infantry findings.

Table 5-1. Correlations Between Various Experience Measures and Intelligence, and Rated Performance of Fire Service Captains Under Low or High Boss and Job Stress

	Boss Stress	
	Low	High
Time in fire dept.	-0.63# (8)	0.33 (14) ^a
Time as fire officer	-0.59# (8)	0.63* (14) ^b
Time in present unit	-0.69# (7)	-0.10 (14)
Intelligence (Wonderlic)	0.34 (8)	-0.40 (14)

$p < .10$; * $p < .05$

Difference between correlations: ^a $p < .05$; ^b $p < .01$.

Coast Guard personnel (Potter & Fiedler, 1981). The studies of combat infantry leaders and fire department officers raise an important question. Namely, does stress affect the relationship between intelligence and performance and between experience and performance more strongly in certain job functions than in others? This question is partly answered in a study of 130 Coast Guard officers and petty officers, most of whom headed a department, office or section. All had taken an intelligence test (Wonderlic, 1977), reported their time in service, and rated the degree of stress in the relationship with their

boss. Performance was evaluated by their superiors, using the Bons scale (Bons & Fiedler, 1976).⁵⁻¹

Participants in the Coast Guard study were also asked to estimate the time and effort they devoted to various staff functions which had been identified as important by Coast Guard officers. Certain of these functions were rated as intellectually demanding, others required communication skills, and still others involved the implementation and execution of orders. Those who performed the same functions, (e.g., advising on policy, decision making, public relations) were dichotomized on their stress scores, and their intelligence and experience scores were then correlated with performance.

It was thus possible to identify the jobs in which stress most strongly moderated, and thus presumably affected, not only the utilization of experience but also intellectual abilities (Table 5-2).

The effect of stress was quite marked: All nine correlations between intelligence and performance were low but positive under low boss stress, but eight of nine correlations were negative under high stress (two significant). In contrast, six of nine correlations between experience and performance were negative under low stress; all were positive under high stress (seven significant.) Thus, boss stress affected the utilization of intelligence mainly in intellectually demand-

⁵⁻¹ One might expect a fairly high correlation between the subordinate's perception of stress with the leader and the leader's rating of the subordinate's performance. This is, however, not the case. Most supervisors seem quite unaware of their effect on subordinates (e.g., Gochman & Fiedler, 1975; Mitchell, 1968) and correlations between these two variables generally account for a very small portion of the variance. This is seen from the correlations listed below:

	Boss Stress		Job Stress	
Army squad leaders	-.01	(123)	.03	(126)
Infantry leaders	-.25**	(127)	.05	(93)
Coast Guard personnel	-.07	(102)	-.09	(102)
Fire department officers	.12	(73)	.02	(46)
Company commanders (Bettin)	-.29#	(43)	.03	(43)

** $p < .01$; # $p < .10$

Note: Size of samples, indicated in parentheses, varies because of missing data.

Table 5-2. Correlations Between Intelligence, Experience and Performance in Staff Functions of Coast Guard Personnel in the High Boss-Stress Conditions

	Correlations Between Performance and...							
	Intelligence				Experience			
	Boss Stress				Boss Stress			
	Low		High		Low		High	
Decision making								
Making decisions	0.11	(21)	-0.47	(13)	0.01	(23)	0.47#	(14)
Policy advising	0.27	(30)	-0.46*	(22) ^b	-0.06	(30)	0.43*	(23) ^b
Administrative support	0.35#	(25)	-0.47*	(25) ^b	0.06	(31)	0.40*	(26)
Communicating and executing orders								
Supervising subordinates	0.07	(29)	0.04	(18)	-0.06	(30)	0.41#	(19)
Training	0.11	(26)	-0.17	(21)	-0.09	(31)	0.42*	(23) ^a
Evaluating field units	0.20	(16)	-0.36	(10)	-0.07	(20)	0.60*	(12) ^a
Attending staff meetings	0.28	(23) ^a	-0.28	(24)	0.06	(23)	0.53**	(26) ^a
Public representation	0.04	(26)	-0.36	(16)	-0.09	(27)	0.55*	(18) ^b
Administration								
Routine paperwork	0.01	(25)	-0.25	(21)	-0.28	(27)	0.44*	(22) ^b

$p < .10$; * $p < .05$; ** $p < .01$

Difference between correlations: ^a $p < .05$; ^b $p < .01$.

ing jobs, i.e., decision making, policy advising, and administrative support (temporarily assuming another officer's responsibilities). However, boss stress increased the utilization of experience uniformly in all job functions. Job stress had a similar but markedly weaker moderator effect on these correlations.

A schematic representation⁵⁻² helps to visualize the complex nature of these findings. Figure 5-3 shows the relationship between stress, in-

⁵⁻² I am indebted to Dennis Hrebec for developing these graphs.

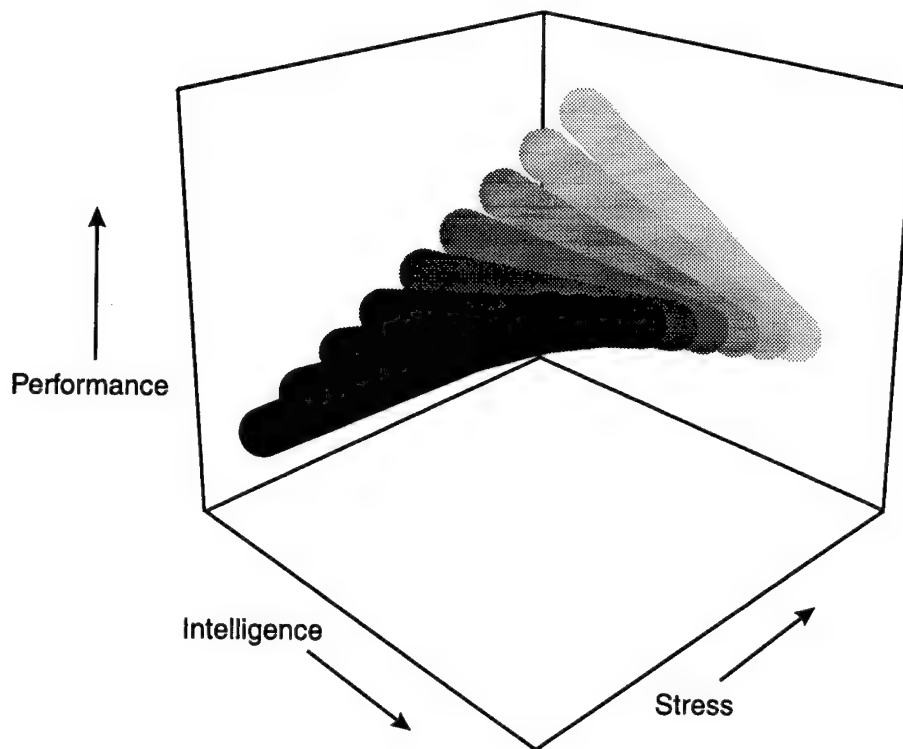


Figure 5-3. Schematic representation of the relationship between intelligence and performance as moderated by stress based on the Cognitive Resource Theory.

telligence, and performance when we hold experience constant. Figure 5-4 shows the relationship between stress, experience, and performance when we hold intelligence constant. In the case of intelligence and performance, the correlation is positive under low stress and the correlation plane gradually twists until the correlation becomes negative as stress increases. In the case of experience, the correlation between experience and performance is negative under low stress, and the correlation plane twists until it becomes positive under high stress.

The Effect of Stress on Intelligence and Experience

It is not too difficult to find explanations for the low correlations between intelligence and performance under stress. Thus, one might ar-

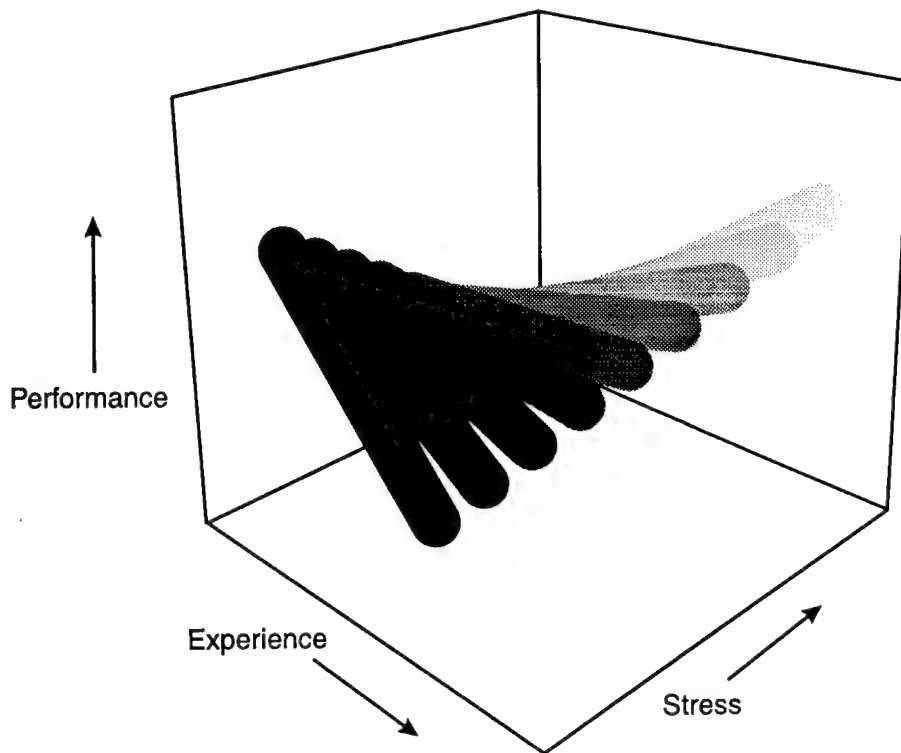


Figure 5-4. Schematic representation of the relationship between experience and performance as moderated by stress based on the Cognitive Resource Theory.

gue that the leader's intellectual focus is diverted from the task when stress is high. This is especially likely when interpersonal stress is generated by the immediate superior and thus distracts the individual from concentrating on the task (e.g., Sarason, 1984). Also, a leader who is under considerable stress might well become disorganized (e.g., see Lazarus, 1966; Spielberger & Katzenmeyer, 1959); this also would make it difficult to concentrate on the task. Highly experienced leaders who work in a relatively relaxed and stress-free situation also may find that the job presents no challenge, and has become boring and uninteresting, therefore, making the leader less productive. But none of these explanations adequately explain the surprisingly high negative

correlations between the leader's intelligence and performance. The three explanations that follow are necessarily speculative.

One simple hypothesis is that relatively intelligent leaders have high expectations of their own abilities, and under stress act as if they "know it all." This may cause resentment in group members who may then want to demonstrate that the leader still has much to learn (see a study by Chemers, Rice, Sundstrom, & Butler, 1975). On the other hand, as already mentioned, highly experienced leaders may perform poorly in low-stress situations because they tend to become bored, disinterested, and, therefore, sloppy in the execution of their duties.

A second hypothesis is that relatively intelligent leaders who feel stressed may try to maintain control of the group process by excessive talking or pre-empting the decision process, thus preventing their group members from contributing to the outcome. This was seen in a study of group creativity conducted by Gibson, Fiedler, & Barrett (1993). A content analysis of the group interaction showed that the more intelligent leaders in a stressful situation tended to "babble." They talked more but produced significantly fewer task-relevant ideas than did less intelligent leaders. The reverse occurred under low stress.

The third hypothesis is considerably more complex but at this time seems more credible than other explanations. We take note, first of all, that task-situations differ in the cognitive demands they make of the leader and the group. In situations in which there is little stress or time pressure, leaders and their group members can devote considerable effort to planning, organizing, and developing alternative strategies for dealing with the task. This applies especially to jobs that are intellectually demanding, require creativity, or logical and analytical thinking. Stressful leadership situations usually require quick, automatic, essentially intuitive responses based on overlearned behavior, i.e., experience (Simon, 1992). But needless to say, we cannot deal with a problem simultaneously on the basis of automatic responses and overlearned behavior as well as logical, analytic, or creative thinking.

Second, individuals differ in their task-relevant experience and intellectual abilities, and this has important consequences for how they are likely to behave under various conditions. We generally rely on

our strong suit, i.e., the special skills we have and on the tools we best know how to use. In fact, we tend to overuse these skills and tools. Thus, given the same medical problem, surgeons are most likely to operate, chiropractors to adjust the spine, and lawyers to litigate. As a well known saying has it, "Give a kid a hammer and the whole world looks like a nail."

Highly intelligent people will, therefore, try to solve problems by intellectual effort and highly experienced people will call on what has worked in the past. But the use of an individual's favored resources may be appropriate in one situation and disastrous in another. Consider, for instance, the likely outcome for a highly intelligent person who attempts to resolve an emotional lovers' quarrel by rationally and dispassionately analyzing his partner's character flaws. To put all this in the present context, highly intelligent leaders will prefer to rely on their creative and intellectual abilities to solve problems; highly experienced leaders will prefer to rely on their previously acquired knowledge, skills and behaviors.

Tasks which demand creativity, logical analysis, and problem solving characteristically require time and a relatively stress-free environment in which one can think and weigh alternatives. (Recall that the strongest effects in the Coast Guard study were related to tasks involving decision making and judgment.) Tasks that are performed under conditions of stress typically require that we make quick decisions on the basis of hunch and intuition. This is the reason for the constant drills and repeated exercises by such emergency response organizations as fire departments, military combat units, and emergency medical teams. As we said earlier, a task cannot simultaneously demand creative or logical thinking as well as automatic reactions that are based on hunch and intuition.

It is important to emphasize, however, that a task, when performed under relaxed conditions, requires different leader attributes and behaviors than does the same task when performed under stress. Consider discussing one's own fitness for an important job at a cocktail party and in front of a selection board. Likewise, planning how to defend against an enemy attack as an academic exercise requires intellectual effort; planning how to defend a position while under enemy attack re-

quires experience. It is, therefore, important to remember that we must consider the task in conjunction with situational requirements as well as the cognitive resources available to the leader.

In order to explain the negative correlations between performance and intelligence, we need to assume that the highly intelligent leader, who is used to relying on intellectual effort, will be reluctant to trust hunch and intuition. The highly intelligent leader will, therefore, impede or block the quick, intuitive, and experience-based action that the stressful situation demands. The result is a negative correlation between intelligence and performance. Conversely, in relatively stress-free situations, highly experienced leaders are likely to be impatient with thinking of new solutions and discussions of possible alternative plans and strategies since they believe that they already know from experience what works. Hence, even if the situation calls for logical, analytical or creative thinking, the "old hand" is likely to discourage or cut short further attempts to find logical or creative solutions to the problem ("We've been over this ground before and don't need another long-winded discussion"). The result under these conditions is a negative correlation between experience and performance.

The cartoons shown in Figure 5-5 attempt to illustrate the way in which intellectual effort might interfere with the experience-based emergency reaction to a crisis; one cartoon figure symbolizes the individual's intellectual abilities, the other figure symbolizes the same individual's experience. The cartoon on the top suggests how experience might lead to impatience with "too much thinking" in a situation in which thoughtfulness is required. The figure on the bottom suggests how the correct intuitive reaction based on experience might be impeded by trying to think of other alternatives.⁵⁻³ Which of the three explanations, if any, best accounts for our results is yet to be established. However, at least one study and two secondary analyses favor the third explanation.

The information search study. Locklear (1989) gave 31 junior Army officers and 27 senior NCOs from an active infantry brigade the

⁵⁻³ I am indebted to Ann Maya, Department of Psychology, University of Washington, for preparing Figures 5-5 and 5-6.

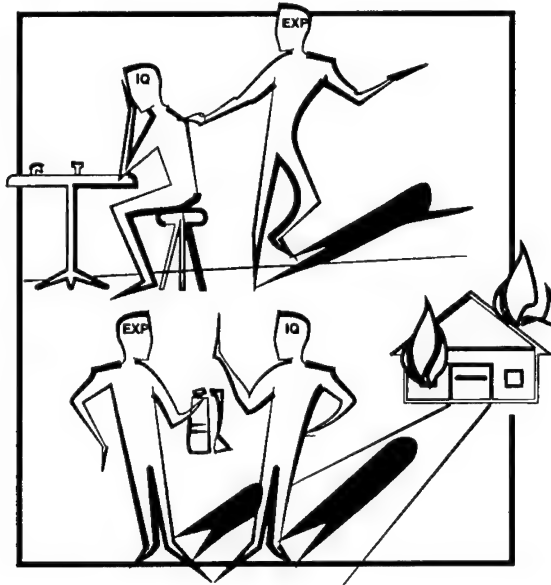


Figure 5-5. The hypothesized interference of experience with intellectually demanding tasks, and of intellectual abilities with experience in stressful situations.

task of ranking five examples of military training schedules on the basis of how well they met a hypothetical company commander's requirements. Equivalent sets of training schedules were given to the subjects in counter-balanced order under a "low-stress" condition that was made as relaxed and non-threatening as possible—a "job-stress" and "evaluation-stress" condition. In the job-stress condition, subjects were given bogus instructions that the task had to be performed in half the time usually allowed for this exercise, and that they would, therefore, be under considerable time-pressure. (In fact, the time for all tasks was 10 minutes). In the "evaluation-stress" condition, the subjects performed the task in front of a video-camera and they were told that their performance in making decisions would be evaluated by two battalion commanders or sergeants-major.⁵⁻⁴ Actual performance was

⁵⁻⁴ Although anxiety was marginally higher in the evaluation-stress condition than the others, post-test interviews suggested that the evaluation stress condition was not taken very seriously by a number of the more experienced officers and NCOs who felt quite realistically that performance in this exercise would not affect their career. Our discussion concentrates, therefore, on the base rate and job-stress conditions.

defined as agreement of the subject's ranking of the schedules with the ranking made by a panel of six military training experts. Overall, there were no effects related to the order in which the stress conditions occurred; however, the more intelligent leaders, as a group, performed better than did less intelligent leaders.

Infantry leaders are frequently asked to prepare and evaluate military training schedules, and those with longer military service have correspondingly more experience with this assignment. The requirements the training schedules had to meet were typed on 35 3- by 2.5-inch index cards and mounted face-down on hooks on an "information board" (see Figure 5-6). The officers and NCOs could inspect and re-inspect as many information items as they wished, but cards had to be replaced after each perusal. Since the search and especially the re-inspection of many information items requires more intellectual effort than ignoring the available information, the number of information items a subject viewed and re-inspected can be interpreted as a measure of intellectual effort.

Before discussing the main results of this study, let us recall the hypothesis that relatively intelligent people will rely more on intellectual

Training Schedule	Attributes of the Training Schedules (Categories)						
	1	2	3	4	5	6	7
1	[]	[]	[]	[]	[]	[]	[]
2	[]	[]	[]	[]	[]	[]	[]
3	[]	[]	[]	[]	[]	[]	[]
4	[]	[]	[]	[]	[]	[]	[]
5	[]	[]	[]	[]	[]	[]	[]

Figure 5-6. Schematic depiction of the Information Board adapted from Payne (1976).

effort than those who are less intelligent. This hypothesis is nicely supported here by the positive correlations of 0.39 to 0.46 ($n=58$, $p < .01$) between our index of intellectual effort (number of cards inspected and re-inspected) and the individual's intelligence score (Table 5-3). Let us recall the further hypothesis that relatively intelligent people will rely more on intellectual effort than those who are less intelligent. This hypothesis is supported by the correlation of 0.46 ($n=58$, $p < .01$) between our index of intellectual effort (number of cards inspected) and the individual's intelligence score (Table 5-3). As it happened, the task of ranking the training schedules turned out to be unexpectedly difficult. The officer, or non-commissioned officer, had only 10 minutes to inspect and re-inspect as many as 35 pieces of information and to make his ranking. By hindsight it is perhaps not too surprising that only three of 58 leaders obtained a perfect score. Intellectual effort was not, therefore, a very fruitful approach for solving this task.

Ranking the training schedules could be done better by hunch and experience rather than by analytical and logical analysis. This is indicated by the positive correlations between experience and performance (0.14 under low stress and 0.29, $p < .05$ under job stress), and the nega-

Table 5-3. Correlations of Number of Item Inspections and Reinspections With Intelligence Measures, Time in Service, and Performance (N=58)

Correlation Between Intellectual Effort and...				
	Fluid Intelligence	Crystallized Intelligence	Time in Service	Performance
Low stress condition	0.29*	0.40**	-0.43** ^b	-0.25# ^b
Job-stress condition	0.34**	0.46**	-0.37** ^b	-0.32* ^b

Correlation Between Performance and...			
	Fluid Intelligence	Crystallized Intelligence	Time in Service
Low stress condition	0.20	0.15	0.14
Job-stress condition	-0.30*	-0.38** ^b	0.29* ^b

$p < .10$; * $p < .05$; ** $p < .01$

Difference between correlations with intelligence: ^b $p < .01$.

tive correlations of -0.30 ($p < .05$) and -0.38 ($p = < .05$) between intelligence and performance in the low stress and job-stress conditions. Even more important, Table 5-3 suggests that experience interfered with intellectual effort: the greater the leader's experience, the less was his intellectual effort. This is indicated by the correlation of -0.43 ($p < .01$) and -0.37 ($p < .05$). That intellectual effort and overlearned behavior interfere with one another can be observed in everyday life (Triandis, 1979). Trying to concentrate on how we hold our tennis racket (an overlearned behavior) makes it difficult to play well and trying to concentrate on your feet gives your partner sore toes. (Remember the fable about the centipede who fell down when asked how he could move all his feet at once?)

Pre-college leader experience and laboratory task performance.

The hypothesis that intellectual abilities and experience interfere with one another could also be tested in an experiment conducted by Murphy (1992), and Macaulay (1992), mentioned earlier in Chapter 3. The study dealt with self-reported "actual" leadership experience, i.e., time in leadership positions, e.g., in high school, as paid manager, as an emergent leader; and "perceived" leadership experience, i.e., percent of time in assumed leadership roles in school and clubs, as compared to others in the age group. The study also obtained fluid and crystallized intelligence measures which were summed (Horn, 1986).

The data came from 60 three-person teams of college students that performed the group decision-making tasks described earlier in Chapter 3. That is, the groups ranked 15 items on the basis of their value for surviving a supposed plane crash. Performance was measured by comparing the group's ranking of the 15 items with the ranking by a panel of survival experts. The interference hypothesis was tested by dividing the group of leaders into those with relatively high and low intelligence (or experience) and then correlating the various experience (or intelligence) measures with performance.

The interference hypothesis predicts a relatively low correlation between intelligence and performance when experience is high and thus interferes more with intelligence than when experience is low. Conversely, the hypothesis predicts a low correlation between experience and performance when intelligence is high and thus interferes more

Table 5-4. Correlations Between *Intelligence* (Horn, 1986) and Performance for Leaders With High, Moderate, and Low Actual and Perceived Experience

	Experience Level					
	High		Moderate		Low	
Experience measure						
Perceived leader experience	-0.06	(24)	0.34	(13)	0.45*	(23)
Time in leader jobs	0.03	(19)	0.25	(22)	0.30	(19)

* $p < .05$ **Table 5-5. Correlations Between *Experience* and Performance for Leaders With High, Moderate, and Low Intelligence (Summed Fluid and Crystallized Scores)**

	Intelligence Level					
	High		Moderate		Low	
Correlations between performance and						
Perceived leader experience	-0.42*	(19)	0.07	(22)	0.34	(19)
Time in leader jobs	-0.16	(19)	0.16	(22)	0.22	(19)

* $p < .05$

with experience than when intelligence is low. Tables 5-4 and 5-5 support these predictions at a significant level in the case of "perceived" experience, and in the expected direction in the case of "actual" experience.

Finally, can we make effective use of our intellectual abilities as well as our experience? An analysis of variance in which we trichotomized the troop commanders on intelligence and experience was not significant ($p = .765$) (Table 5-6). Separate analyses for combat company commanders and for platoon sergeants attempted to determine whether those with high intelligence as well as high experience ob-

Table 5-6. Mean Performance (z-Scores) of Troop Commanders With High Intelligence and High Experience Compared to Those Who Have Low Intelligence or Low Experience (Source: Borden, 1980)

Experience	Intelligence		
	Low	Middle	High
Low	-0.48 (33)	-0.09 (29)	-0.26 (25)
Middle	-0.16 (21)	0.29 (25)	0.17 (23)
High	-0.10 (32)	0.24 (20)	0.34 (22)

(Interaction not significant.) Size of sample indicated in parentheses.

tained higher performance ratings. Neither of these analyses yielded significant interactions between intelligence and performance. Nor did we find a significant interaction between intelligence and experience for commanders of fire truck companies, (interaction Intel. x Exper. $p=.279$). Some individuals undoubtedly can think on their feet even under the most stressful conditions (see, for instance, the work by Suedfeld & Tetlock, 1977), but there may be very few who can do so successfully.

Summary

This chapter presents consistent evidence that the effective utilization of intellectual abilities requires a relatively stress-free leadership situation while the effective utilization of experience is evoked by stressful conditions. Even more importantly, we find negative correlations between intelligence and performance when stress is high, and negative correlations between experience and performance when stress is low. Several explanations can be advanced to account for these counter-intuitive results. Of these, the interference hypothesis appears most plausible at this time for explaining these puzzling findings.

Chapter 6

The Role of Experience in Contingency Theories

Although leadership experience is clearly important in organizational life, it has not become an integral part of most leadership theories. This is not so surprising when we consider that experience measures by themselves do not predict leadership performance (see Table 1-3 in Chapter 1). And yet, experience surely does make a difference. First, compared to those who are less experienced, the more experienced leaders are generally held in higher esteem by their superiors as well as by their subordinates, enjoy higher status in the organization, and have more self-confidence. Second, having been in the organization longer, and having performed the job on many previous occasions, they know what is expected and what it will take to get the job done. In other words, the task is more highly structured for the experienced than for the inexperienced leader. For these reasons, in the language of the Contingency Model (Fiedler, 1964, 1967), experience increases the leader's situational control. And while increased situational control does not directly result in the more effective use of leadership experience, it has important indirect effects which are predicted by the Contingency Model.

The indirect effects of experience also have important implications for a number of other contingency theories. For example, House (1971) uses task-structure as one of the main situational components in his Path-Goal Theory, and Vroom and Yetton (1973) speak of leader competence as well as of task structure in their theory. "Maturity," derived in part from experience, is a main element in Hersey and Blanchard's (1969) Life Cycle Theory. Thus, by increasing task structure and group members' relations with the leader, experience affects the situational component in these theories.

The Contingency Model of Leadership Effectiveness (Fiedler, 1964, 1967) is to my knowledge the first leadership theory which attempted to integrate experience into a broader theoretical framework.

The Contingency Model postulates that the performance of a leader depends to a significant extent on two interacting factors. One of these is the leader's personality, and more specifically, the motivational system. It is expressed by the tendency in uncertain or stressful situations to give priority to task accomplishment rather than close relations with group members (indicated by a low score on the Least Preferred Co-worker, or LPC scale), or by giving higher priority to establishing and maintaining close and supportive relations with group members (high LPC).⁶⁻¹

The other main element in the theory is the leader's "situational control," which indicates the degree to which the leader is able to control the group process and the task outcome (see Chapter 2). The Contingency Model postulates that task-motivated (low LPC) leaders perform best in situations in which their control is either very high or relatively low; relationship-motivated (high LPC) leaders perform best in situations that provide moderate control. This is depicted schematically in Figure 6-1 which shows performance on the vertical axis and three degrees of situational control on the horizontal axis. Note that performance changes as the leader's situational control changes, and the degree of situational control which is most advantageous for a high LPC leader is least advantageous for a low LPC leader.

As Figure 6-1 also shows, the theory implies that an increase in situational control from moderate to high will improve the performance of task-motivated leaders but decrease the performance of relationship-motivated leaders. An increase in situational control from low to moderate will improve the performance of relationship-motivated leaders but decrease performance of task-motivated leaders. This theory has

⁶⁻¹ The LPC scale asks the individual to think of all past and present co-workers, and then to describe the one person who was his or her least preferred co-worker (LPC). This can be a subordinate, a peer, or a supervisor. The scale is illustrated below:

Friendly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Unfriendly
	8	7	6	5	4	3	2	1											
Cooperative	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Uncooperative
	8	7	6	5	4	3	2	1											

The sum of the 18 scale items constitutes the individual's LPC score. A person who describes the least preferred co-worker as very unpleasant, unfriendly, etc., in effect tells us that the co-worker role is so important, it overshadows any other personality attributes the individual

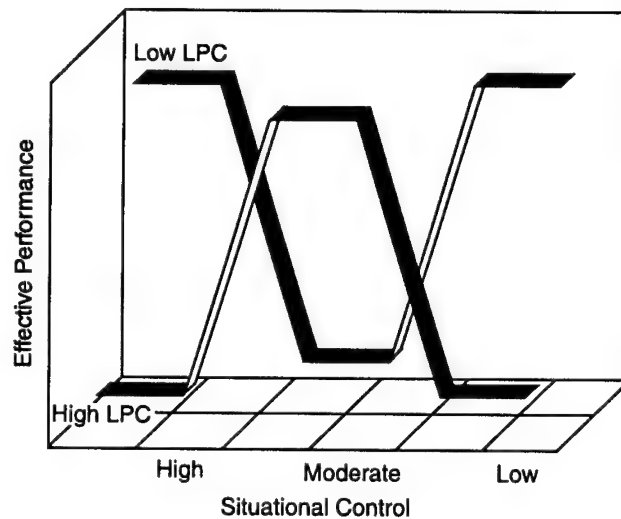


Figure 6-1. Schematic representation of the Contingency Model.

been supported by two separate meta-analyses (Strube & Garcia, 1981; Peters, Hartke, & Pohlmann, 1985) as well as numerous other studies (e.g., Fiedler, 1971; Rice, 1978a, 1978b). Since experience tends to result in better leader-member relations and high task-structure, we expect that a gain in experience will have the same effect as an increase in situational control. This is illustrated by three studies which are summarized below.

Army squad leaders. Fiedler, Bons, & Hastings (1973) conducted a longitudinal study of 39 Army infantry squad leaders who had been rated as having moderate situational control at the beginning of the

might have (e.g., "The fact that you will not, or cannot, help me get the job done means that you are stupid, unpleasant, and otherwise worthless") and indicates a "task-motivated" person. Someone who perceives a least preferred co-worker in a differentiated manner might think, "Even if I can't work with you, you might still be a good person in other respects; you may be uncooperative, but you're bright...stupid but honest." The high LPC person looks at the co-worker as someone with whom it is possible to have a good relationship, and hence is called a "relationship-motivated" person. Floyd Brown (personal communication, 1992) recently administered the LPC scale to teenagers and then asked them to respond to the Moos Family Environment Scale (1981). Two items correlated with LPC above at .75: These were "with your friends, how often have you found yourself...trying to make sure that things get done?" or "...trying to help others get along?" These correlations give the strongest support to the current interpretation of LPC and are consistent with other findings.

training cycle. Their performance was evaluated twice by the same superior officers, once at the time the squads were formed, and again at the time of the combat readiness inspection. By then, the squad leaders had gained from 5-8 months of additional task-relevant experience and thus presumably increased their situational control from a moderate to a high level.

Figure 6-2 shows the results. At the time of the first evaluation, the relationship-motivated squad leaders were rated as more effective than task-motivated leaders. By the time of the second evaluation, the squad leaders had become more experienced in their leadership role, and now the task-motivated leaders were rated as more effective than the relationship-motivated leaders, thus reversing the relationship between LPC and performance over the 5-8 month period.

School principals. A similar finding was obtained by McNamara (1968) who studied Canadian elementary and high school principals. He divided the principals into those with less than two years on the job (inexperienced) and those with three or more years on the job (experi-

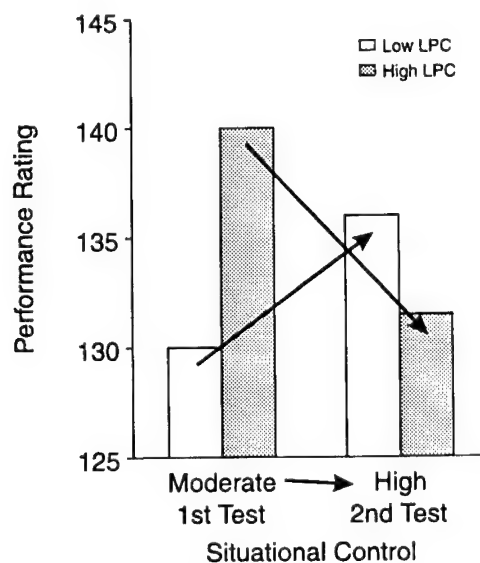


Figure 6-2. Changes in performance of relationship-motivated (High LPC) and task-motivated (Low LPC) Army squad leaders as they gained experience over a 5-8 month period. (Source: Fiedler, Bons, & Hastings, 1973)

enced or “established”). The elementary school principals managed a relatively simple organization. Most of the schools employed 6 to 10 teachers, the curriculum was prescribed by the school district, and elementary pupils presented relatively few disciplinary problems. Hence, situational control for the inexperienced principal was rated as moderately high while it was rated as high for the experienced principal.

As the Contingency Model predicts, inexperienced principals of elementary schools who were relationship-motivated received higher performance ratings than did task-motivated principals. However, among the experienced principals, the elementary school principals who were task-motivated obtained higher performance ratings than did relationship-motivated principals (Figure 6-3a).

The high school principals faced a more complex and less structured leadership situation. The high schools in Alberta were fairly large with staffs of 30 to 60 teachers who are assigned to various departments, e.g., English, Mathematics, Social Studies, etc. The students were older and presented more disciplinary problems than

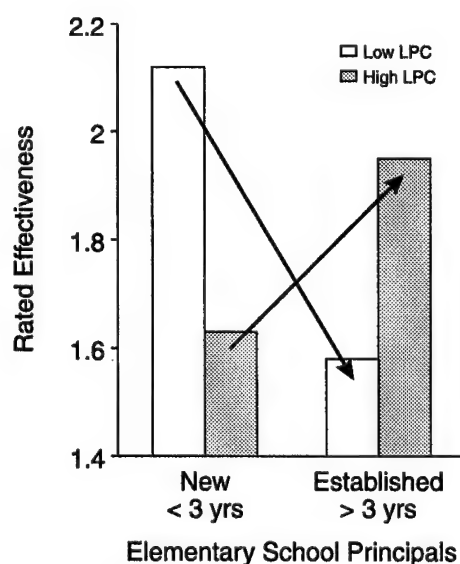


Figure 6-3a. Average performance of relationship-motivated (high LPC) and task-motivated (low LPC) elementary school principals with relatively low and high levels of experience. (Source: Fiedler, 1972)

elementary school pupils. Furthermore, the high school principal had some responsibility for curriculum and staff development, and the job entailed liaison with the community and the school board. These are all highly unstructured sub-tasks. In view of these conditions, the experienced principals' situational control was judged as moderate, while the situational control of inexperienced principals was rated as low. The performance of high school principals was based on the average score of 11th grade students in province-wide achievement tests.

The Contingency Model predicts that among the inexperienced high school principals, those who are task-motivated (low LPC) perform better than those who are relationship-motivated (high LPC). Among the experienced principals, those who are relationship-motivated will perform better than those who are task-motivated. The results support these hypotheses (Figure 6-3b).

Supply cooperatives. In a study of 32 farm supply cooperatives (Godfrey, Fiedler, & Hall, 1959), we were able to develop an objective criterion of organizational performance: The company's net

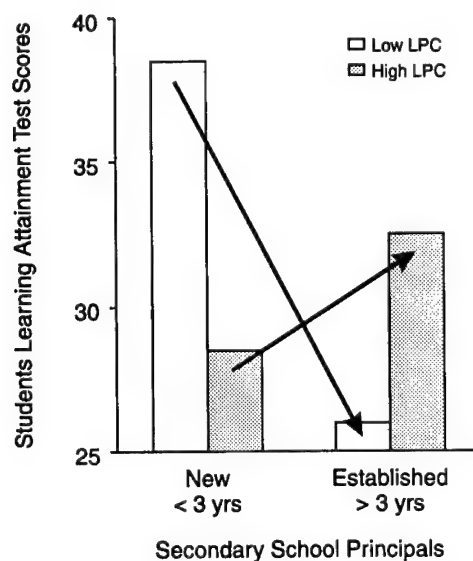


Figure 6-3b. Average performance of relationship-motivated (high LPC) and task-motivated (low LPC) secondary school principals with relatively low and high levels of experience. (Source: Fiedler, 1972)

income and operating expenses as a percentage of total gross sales. The members of each cooperative elected the company's board of directors, and the board in turn hired the general manager from among a list of candidates proposed by the umbrella organization. All companies sold the same products and used the same accounting and financial reporting methods. For purposes of the present analysis, the group of available managers were divided into those above and below the median of LPC scores. They were divided into thirds on the basis of how long they had been with the organization, and the data from those who fell into the upper and the lower thirds of the distribution of experience were used in the analysis. The situational control of inexperienced managers was rated as moderate, that of experienced managers was rated as high. As Figure 6-4 shows, the inexperienced managers who were relationship-motivated were more effective than those who were task-motivated. Among managers who were experienced, the task-motivated managers were more effective than relationship-motivated managers.

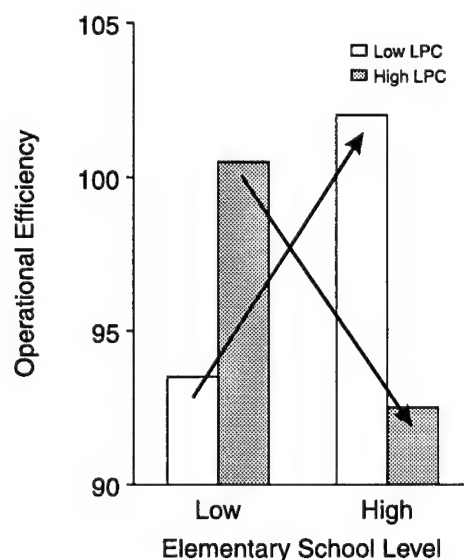


Figure 6-4. The presumed change in performance of relationship-motivated (high LPC) and task-motivated (low LPC) company managers as a function of increased experience. (Source: Godfrey Fiedler, & Hall, 1959)

Managers in various organizational settings. We also conducted an analysis on leaders from other organizations who had participated in our research at various times. The logic underlying this analysis was that experience increases task structure, which increases structure and thus the leader's situational control. For this reason, a job which has moderate structure for the inexperienced leader has high structure for the experienced leader; a job which has low structure for the inexperienced leader will have moderate structure for the experienced leader.

Again, let us refer to Figure 6-1, and consider the case in which the leader has moderate situational control when still inexperienced and high control when experienced. The figure shows that the performance of the task-motivated leader should then increase with experience while that of the relationship-motivated leader should decrease. We should, therefore, find a positive correlation between leader experience and performance for the task-motivated (low LPC) leader, and a negative correlation for the relationship-motivated (high LPC) leader. In organizations in which the job has low structure for the inexperienced leader, the job should have moderate structure for the more experienced leader. Hence, experience should transform the leadership situation from low to moderate. The correlation between the leader's experience and performance should, therefore, be positive for the high LPC leader and negative for the low LPC leader.

Table 6-1 summarizes the results obtained in nine different organizations for which there was unanimous agreement by three independent judges on task-structure for experienced leaders. The table shows correlations between experience and performance for relationship-motivated and for task-motivated leaders in four organizations with high task-structure and in five with low task-structure. The predictions of the Contingency Model are borne out in seven of the nine pairs of correlations ($p < .05$).⁶⁻²

Research based on the Contingency Model also shows that task-motivated leaders tend to be directive and concerned with the task in

⁶⁻² The majority of leaders in these organizations tended to have at least moderate group support, and all leaders in these organizations had high position power. It is, therefore, safe to assume that experienced leaders with unstructured jobs had at least moderate situational control (Fiedler & Garcia, 1987, pp. 51-67).

Table 6-1. Correlations Between Experience and Performance for Relationship-Motivated (High LPC) and Task-Motivated (Low LPC) Leaders With Relatively Structured and Unstructured Tasks

	High Leader LPC		Low Leader LPC	
	r	N	r	N
High task structure				
Army squad leaders	-0.54*	19	0.36#	17
Anti-aircraft crew chiefs	-0.11	8	0.43	7
Fire department officer	-0.40	10	0.29	10
Post office foreman	-0.29	10	0.38	10
Low task structure				
Police patrol sergeants	0.58#	7	0.02	9 ^b
Presidents, consumer co-ops	0.40	8	0.03	8
Chemical research team ldrs.	0.50	5	-0.10	5
Secondary school principals	0.26	19	-0.56**	27 ^b
Army platoon leaders	0.60**	20	-0.20	11 ^a

$p < .10$; * $p < .05$; ** $p < .01$ Difference between correlations: ^a $p < .05$; ^b $p < .01$.

situations that are relatively stressful, or moderate or low in situational control. Relationship-motivated leaders, on the other hand, are directive in situations of high control, but considerate and concerned with interpersonal relations in moderate and low control situations (e.g., Fiedler, 1972; Fiedler & Garcia, 1987, pp 175-186). The study of Army squad leaders by Bons and Fiedler (1976) shows that the same trends can be found when we substitute leader experience for situational control: Leaders who were task-motivated became more considerate and less directive with increased experience; relationship-motivated leaders became more directive and concerned with the task as they gained experience. Changes of this nature are seen in everyday life: Some leaders become authoritarian under stress or when they are threatened, others become conciliatory and participative. Some leaders

mellow as they get older, and others become more grumpy and difficult. Experience thus changes leader behavior as well as performance.

Summary

To recapitulate, our research shows that leader behaviors are contingent on the leader's motivational system and the leadership situation. Our studies show that leader behavior changes with experience, as well as with changes in the situation. This finding has important implications for leadership theories in which leader behaviors play a critical role (e.g., Hersey & Blanchard, 1969; House, 1971; Vroom & Yetton, 1973; Graen, 1976). It is, of course, unfortunate that our results introduce further complexities into an already complex system. However, the different effects which experience has on the behavior and performance of relationship-motivated and task-motivated leaders need to be considered in any attempt to develop a more comprehensive theory of leadership.

Chapter 7

Accomplishments and Speculations

Our research has uncovered a plethora of new and non-obvious findings. Many of these have turned out to be unexpectedly complex. For the moment, at least, the study of leadership experience seems to require high tolerance for ambiguity. This final chapter reviews some potentially important contributions of our research as well as its limitations and shortcomings, and addresses some of the criticisms likely to be raised. Finally, I will discuss my own interpretation of the major findings, and suggest potentially fruitful directions for future research. We begin with a brief summary of the major findings.

Major Outcomes

1. Job-related experience is one of the most important factors in hiring and selection decisions, and may well predict performance in non-managerial jobs. However, measures of leadership experience do not by themselves predict the performance of leaders and organizations. This conclusion applies to time-based experience measures, diversity of experience, number of previous jobs, and measures of relevant experience.
2. While negative findings usually cannot be interpreted with confidence, our studies found no substantial positive correlations where some might reasonably be expected. These “non-findings” may be of importance in designing future studies.
 - a. We would expect that more intelligent leaders learn more from their experience than leaders with more limited intellectual abilities. Our studies do not support this commonly voiced expectation.
 - b. Neither the leaders’ actual nor perceived support by group members, nor task structure, nor position power increased the effective utilization of leadership experience.

c. Highly motivated or directive leaders do not seem to make more effective use of their experience than do relatively unmotivated or nondirective leaders. This suggests that the recall of experience-based knowledge is not under the leaders' voluntary control. (This phenomenon is similar to the common experience of being unable to recall a name or event no matter how hard one tries, and then remembering it spontaneously at some later time.)

3. Under conditions of relatively high stress, leader experience correlates positively with performance while intelligence tends to be uncorrelated or negatively correlated. Under low stress, leader intelligence correlates positively with performance but experience tends to be uncorrelated or negatively correlated with performance. Thus, under low stress, leaders use their intelligence but misuse their experience; under high stress they use their experience but misuse their intelligence.

4. Experience with the technical aspects of the task improves task-specific individual performance but not leadership performance.

5. Experience lowers vulnerability to stress and increases task structure, and therefore, increases the leaders' situational control. The finding that experience increases situational control constitutes an important link between Cognitive Resource Theory and the Contingency Model, as well as to other contingency theories.

6. Preliminary evidence suggests that leadership experience in stressful conditions improves self-efficacy, and also interpersonal relations with subordinates as we shall see below.

Limitations, Likely Criticisms, and Need for Further Research

The correlational nature of the evidence. Correlational studies generally do not allow us to interpret cause-and-effect relationships, causing one anonymous critic to suggest that "Fiedler should conduct some experimental longitudinal research." This recommendation, although no doubt well intended, is difficult to follow when we investigate leadership phenomena which, like glaciation and planetary

geology, are not easily amenable to experimental manipulation. Moreover, the problem of inferring causality is not too difficult when we deal with experience as the predictor. It is certainly easier to believe that past experience affects present performance than that present performance affected past experience.

Laboratory research on leadership does have its place but seems ill suited for studying phenomena that develop over extended periods of time. This is borne out in studies by Murphy (1992) and Macaulay (1992) which investigated the effect of previous real-life leadership jobs on team performance under low and moderate stress conditions (see Chapter 3). Murphy and Macaulay also compared the effects of real-life experience with "experience" introduced as part of the experimental design. The study consisted of two successive phases. It was designed so that half of the participants served as leaders in Phase 1 to provide them with short-term leadership experience in Phase 2.

The study provided no evidence that the laboratory simulation of experience resembled real-life experience in terms of its effects on behavior and performance. In fact, these two types of experience predicted team performance in the opposite direction. It seems highly questionable, therefore, that laboratory studies of leadership experience permit us to generalize to real-life situations.

The use of secondary data. Another likely criticism is the use of data obtained in previous studies, and that the findings, therefore, might be biased. There are good reasons to believe, however, that the danger of working with secondary data has been vastly exaggerated.

First of all, bias can occur as easily in studies designed *de novo* for the purpose of testing a specific hypothesis as in the analysis of secondary data. By inadvertence, and sometimes by intent, test and questionnaire items may be written to favor certain responses rather than others, and experimental manipulations frequently favor the investigators preferred outcome.⁷⁻¹ In the final analysis, the critical test is whether previously observed results are found again in other studies,

⁷⁻¹ See for instance the exchanges on the Contingency Model between Graen, Alvares, Orris, and Martella (1970) and Fiedler (1971) and on Cognitive Resource Theory between Vecchio (1990, 1992) and Fiedler, Murphy, and Gibson (1992).

regardless of whether the data come from secondary analyses or from studies specifically designed to test a particular effect. Moreover, there is no special virtue in designing a new experiment when we can test a hypothesis just as well on already existing data. Such fields as anthropology and astronomy, as well as research on census and educational data, do not seem to have suffered from the use of secondary data.

Is there a danger that the investigator will pick and choose from among secondary data? Based on my many years of conducting leadership research, I usually consider myself very lucky to find even one or two other studies with data that can be used for secondary analyses. Is it ever possible to select only those data that support the hypothesis? Yes, of course, but if deception is in your heart, it is probably much easier to doctor your own data than those in someone else's research.

The use of military populations. Many of the data come from military and para-military organizations. While we have not found major differences between military and nonmilitary populations in our studies, some important differences may well exist between military and civilian subjects in motivation, attitude, and personality. However, additional research on civilian populations is clearly desirable.

Small samples. Many samples in our studies are small. Unfortunately, small samples are a fact of life in leadership research. There is only one leader for each group, and there are very few organizations outside the military or para-military services in which a large number of groups perform the same, or highly similar, tasks under comparable conditions. Even fewer of these organizations make a determined effort to measure group or leadership performance and not all of these few permit outsiders access to their data. At this point, the remedy seems to lie in cumulating data from different studies, and basing conclusions on the combined evidence.

Oversampling of middle and first-level managers. Although some of our studies have dealt with top management (e.g., college presidents, managers of consumer cooperatives), the preponderance of our data comes from leaders at the lower and middle management levels. As Jacobs and Jacques (1987) have shown, different abilities are required at different levels of an organizational hierarchy. It is therefore

important to determine to what extent our conclusions generalize to higher levels of management.

Gender differences. The large differences in the socialization of males and females, especially in the area of handling authority relationships, are bound to have important consequences for the way in which male and female leaders utilize their leadership experience. Our research program has had very limited access to female leaders. However, a recently completed dissertation by Macaulay (1992) suggests major differences in the way in which experience affects the behavior and performance of men and women in leadership positions. Thus, Macaulay found a positive correlation between fluid intelligence and performance for inexperienced female leaders, but a negative correlation for inexperienced male leaders. Unfortunately, Macaulay's subsamples were very small. Her findings do suggest, however, that additional research on this problem is likely to be fruitful.

Trying to Get a Handle on the Meaning of Leadership Experience: A Further Discussion of Selected Findings

In the context of organizational work, leader experience has to be seen as the end-product of a multi-link process: The leader has (a) been exposed to certain past events, usually on repeated occasions, (b) attended to these events, (c) interpreted their meaning, (d) coped with the events, (e) categorized and stored the reinforced coping methods, (f) under stress retrieved and automatically used the acquired coping behaviors. We have, therefore, interpreted leader experience as a form of overlearned skills, knowledge and behavior.

This interpretation of experience has a number of important consequences. First, it allows us to integrate the concept of leadership experience in the larger body of psychological theory, and explains why experience typically results in automatic or near-automatic reactions under stressful conditions and in emergencies. Second, defining experience in this manner also explains why experience-based skills and behaviors are difficult to access at will. Thus, Herbert Simon (1992) describes the prototypic expert as justifying his or her action by

saying, "I just use my intuition. It's all a matter of experience." Simon goes on to state,

In everyday speech, we use the word, *intuition*, to describe a problem-solving or question-answering performance that is speedy and for which the expert is unable to describe in detail the reasoning or other process that produced the answer. The situation has provided a cue; this cue has given the expert access to information stored in memory, and the information provides the answer. We do not have conscious access to the processes that allow us to recognize a familiar object or person.

Under conditions of stress, or when uncertainty is high and one response is as likely to be as good as another, we necessarily must fall back on the products of our experience, namely intuition and hunch. When we try to impose reason on a problem that has no reasonable answer, the response to the situation will certainly be delayed, and the outcome is likely to be poor.

Implications for practice. Our findings have major implications for manpower utilization. Some leaders are, by nature, anxious; some jobs are by their nature stressful; and some bosses are naturally "difficult." Under these conditions, manpower utilization strategies must concentrate as much on providing an appropriate leadership environment as on the individual's abilities and prior job experience. Stressful situations call for experienced leaders who can handle crisis conditions and emergencies. Intellectually able leaders should be assigned to work in which interpersonal and job stress tends to be low. Alternatively, of course, we can train highly intelligent leaders to be less stress-vulnerable.

The feasibility of increasing the utilization of intellectual abilities has recently been demonstrated in a highly stressful environment, namely, in National Guard Officer Candidate Schools (Link & Jacobs, 1992). This study showed significantly increased correlations between

the intelligence scores and performance of officer candidates after receiving stress-reduction training than did officer candidates in a comparable control group. And as was seen in the Murphy (1992) and Macaulay (1992) studies, experienced leaders are more effective under stress than are less experienced leaders.

The Switch From Reliance on Intelligence to Experience

Two of the most intriguing findings of our research concern the reciprocal interference between reliance on intellectual abilities and on experience, and the sudden switch from one behavior pattern or cognitive resource to another when there is a change in stress or in situational control (Fiedler, 1971; Fiedler & Garcia, 1987).

These two problems turn out to be related. As already discussed, we speculate that intellectual problem-solving cannot co-exist with the automatic fall-back to previously learned behaviors and policies. This is well illustrated in everyday life by the difficulty of trying to change traditional and well-ingrained work methods. This often requires an outside consultant who is unencumbered by tradition and habit, and who is, therefore, able to take a fresh look at a problem. It was, for example, Frank Gilbreth (1911), a psychologist, who radically improved the traditional methods of the bricklaying craft which pre-dates Western civilization by several thousand years.

The explanation offered in Chapter 5 suggests that intellectually superior people normally seek to solve problems by relying on intellectual effort. However, when stress occurs, it threatens their intellectual control over the outcome of the task or the group process and evokes automatic responses based on intuition. The leader who has learned to rely on intellectual effort will distrust intuition and hunch. He will, therefore, delay or inhibit the appropriate automatic response and thus reduce the likelihood of effective performance.

The use of automatic or overlearned reactions in dealing with a crisis is clearly more efficient than trying to develop a new plan on the spur of the moment, and these overlearned methods have obvious survival value. When faced with a saber-tooth tiger, it is healthier to run than to stop and consider alternative options. This is also exemplified

by the typical bureaucratic defense against stress and uncertainty, e.g., "We've always done it like this," "It's our policy." These automatic responses may not be creative, but they certainly keep one out of trouble.

Viewed in a developmental framework, knowledge gained from experience is likely to represent an earlier mode of thinking. Thus Barker, Dembo, and Lewin's (1941) experiment found that children responded to frustrating and stressful conditions by reverting to simpler and more primitive play behavior. Suedfeld and Bluck (1988) have shown that an individual's ability to differentiate and integrate various elements in the environment dramatically decreases under stressful conditions. The Russian psychologist, Alexander Luria (1976, pp. 117-133), came to a similar conclusion in his work with illiterate and semi-literate peasants in Uzbekistan and Tajikistan. Luria showed that experience-based thinking represents a relatively early stage in the mental development of illiterate peasants. Logical and analytical thinking appeared when these peasants were exposed to more disciplined modes of thinking learned in school.

Acting on the basis of intuition, hunch, and experience takes place on a non-verbal feeling level. We assume that it is therefore more representative of an earlier stage of cognitive development than is logical, analytical or creative thinking (e.g., Luria, 1976; Piaget, 1963; Simon, 1992). We postulate that the latter mode of thinking is possible primarily under low-stress conditions. When under stress, the individual reverts to a simpler, non-verbal, and developmentally earlier mode of thinking which is based on experience (Luria, 1976).⁷⁻² The explanation which is offered may not be the only one possible, but it does represent a plausible hypothesis to account for our findings.

Experience and Interpersonal Skills

To be effective, leaders have to be reasonably adept in dealing with people. Such interpersonal skills as tact and sensitivity do not

⁷⁻² This shift in cognitive resources is also consistent with social facilitation theory (e.g., Cottrell, Wack, Sekerak, & Rettle, 1968; Zajonc, 1965). According to this theory, individuals perform better on simple and overlearned tasks when they are observed by a critical, anxiety-arousing audience (e.g., a threatening boss), but they perform better on newly learned or complex tasks under non-threatening and relaxed conditions.

come from books, nor do intellectual abilities seem very helpful in acquiring these skills. Emotional problems are not easily resolved on an intellectual, rational basis. In fact, highly intelligent people have a rather poor reputation for skill in handling emotion-charged problems. We are much more apt to speak about "cold intellectuals" than of warm-hearted, cuddly engineers and scientists. If the popular stereotype holds water, it may well be true that highly intelligent leaders often fail in their interpersonal relations because they rely too much on their analytical and logical abilities.

Our research indicates that experience rather than intellectual ability contributes to effective interpersonal performance in stressful leadership situations. This is suggested by data from the study of Army infantry leaders. Borden (1980) (Fiedler & Garcia, 1987, p. 187-193) correlated the experience and performance of leaders who occupied five different jobs in the organization (company commander, executive officer, etc.) In a further analysis of these data, a panel of 13 commissioned and noncommissioned officers ranked the leaders' positions on the extent to which they required the leader to "manage" or handle his boss as part of the job, e.g., tactfully guiding the boss and keeping him out of trouble.

The five jobs shown in Figure 7-1 are rated in the order in which they require the individual to manage difficult relations with the boss.⁷⁻³ The correlations between experience and performance are plotted for each of these five jobs. The two jobs in which it was deemed most important to manage the boss were those of First Sergeant and company commander. For these jobs, experience (TIS) correlated most highly with performance under high "uncertainty stress." The jobs of platoon leaders and executive officers were rated as requiring the least need to manage the boss, and in these two jobs, experience and performance were uncorrelated regardless of stress. Again, experience seems to be most useful in difficult situations, that is, when relations with the boss are stressful. (For a more detailed discussion of the analysis, see Fiedler and Garcia, 1987, pp. 189-193.)

⁷⁻³ The caption of Figure 15.3 in Fiedler and Garcia (1987) was incorrectly labeled. It should read "Correlations between experience and performance of leaders..." rather than "Correlations between intellectual ability and performance of leaders..."

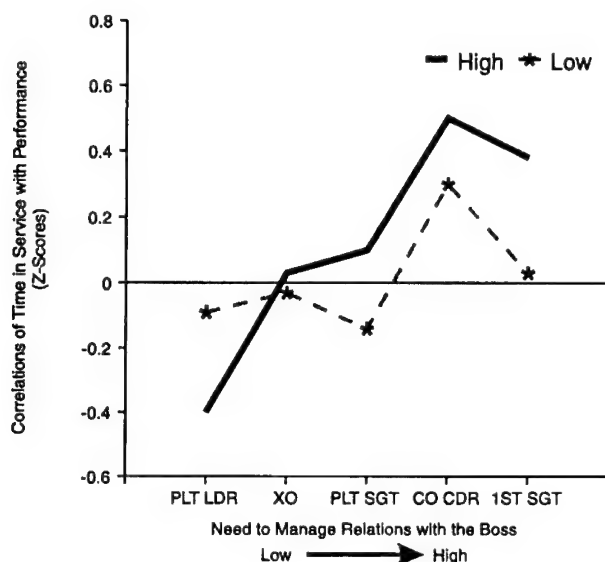


Figure 7-1. Correlations between experience and performance in different Army infantry jobs under conditions of high and low stress.

Further evidence to this effect comes from a study of 53 squad leaders (Fiedler & Leister, 1977). The sample was divided at the median of the boss stress scale. One sign that the leader has handled interpersonal relations well is a high level of squad members' job satisfaction. In groups in which the squad leader reported low stress, the correlation between the squad members' job satisfaction and the squad leader's experience was $-.18$ ($n=26$). However, in squads in which the leader reported high stress, leader experience and the members' job satisfaction correlated at $.57$ ($n=27$, $p < .05$ difference between correlations significant at $p < .05$). Thus again, under conditions of stress, experience enabled leaders to provide a more satisfying, and presumably more congenial environment for their group members.⁷⁻⁴

⁷⁻⁴ While experience may result in more satisfaction for group members, it does not necessarily make the leader more tolerant of poor performance. Quite to the contrary; Landy and Lamielle-Landy (1978) found that experienced teachers were less lenient than inexperienced teachers. And Cascio and Valenzi (1977) reported that experienced police supervisors gave lower performance evaluations to their subordinate policemen than did less experienced supervisors. Our own data have yielded similar findings (e.g., Bons & Fiedler, 1976).

None of these results, by itself, is compelling. However, taken as a group they suggest that experience contributes to the individual's ability to manage interpersonal problems only in stressful conditions. These tentative findings provide fruitful hypotheses for future research.

Technical Experience and Performance

Many, if not most, supervisors and managers are selected and promoted in large part because of their knowledge and experience in dealing with technical problems of the job. This is particularly so in capital-intensive organizations and those in which technical competence is critical. Without this requisite level of technical experience, most leaders and managers cannot attain or hold their positions. The question is whether the effects of stress on the relationship between technical experience and leadership performance are more similar to those related to intelligence or to experience. Specifically, does extensive technical experience—like intelligence—increase performance under low stress or does it, like experience, increase performance under high stress?

The few preliminary findings we have thus far suggest, at least in this respect, a greater similarity between technical experience and intelligence than between technical experience and leadership experience. The leader's technical experience and technical knowledge seem to be helpful to performance under low stress, but detrimental to performance under conditions of high stress.

Concluding Comments

The foregoing data and interpretations suggest four principal factors that affect the role of leader experience in organizational performance:

- a. *Cognitive attributes:* The individual's capacity for creative, analytical, and logical thinking on the one hand, and experience-based, intuitive decision making, and action on the other.
- b. *Stress and uncertainty:* The degree to which the situation is predictable and relaxed, or else stressful and uncertain for the leader.

c. *Task requirements:* The degree to which the task demands logical, analytical thinking, and decision making based on intellectual effort, or else quick decisions and emergency reaction based on hunch and intuition, or expressive, interpersonal sensitivity and understanding which are acquired by experience.

d. *Nature of the task:* Structured tasks give the leader more control than tasks that are unstructured, ambiguous and intrinsically difficult. These unstructured tasks cause stress and anxiety because they make task accomplishment highly uncertain. To the extent to which the task itself produces stress and anxiety, leaders will base their actions on the intuitive knowledge and skills acquired through experience rather than on intellectual abilities.

In conclusion, our research provides a preliminary picture of the role and function of leadership experience, and the variables likely to be useful in future studies. Given the sad fact that so little programmatic research on experience has been published, considerable gaps in our knowledge are hardly surprising. It is my hope that our research introduces a modicum of order in this important area of organizational concern. I have seen my main task as trying to integrate what we know, and advancing testable hypotheses for the future study of leadership experience. I hope that these hypotheses will help us come to grips with the various contradictions and puzzles that still remain.

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